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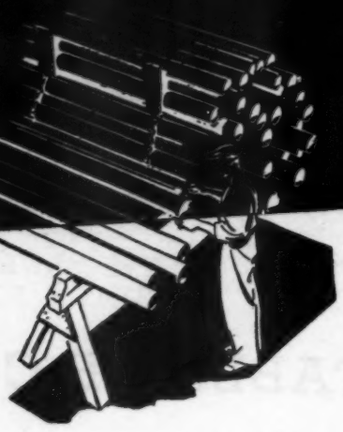

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Buying Oil While Gasoline Stocks Grow

MAJOR OIL COMPANIES were reported this week to be welcoming opportunities to buy crude at the very time that gasoline, unneeded because of weather conditions which ruined motor travel, was accumulating in disturbing volume. This anomaly is explained by the fact the large integrated organizations have been drawing steadily on their own crude inventories, and with an eye to future requirements are more than ready to start replenishing them. On the other hand, independent refiners who have their own crude production but limited storage facilities for either crude or refined products, are willing to dispose of their crude at current prices instead of making motor fuel which nobody wants. The picture thus presented is regarded as encouraging, in that it points to a basically improving situation in which the petroleum industry, as soon as it emerges from temporarily dislocated conditions, should move into a better economic position.

The situation in California is disappointing, operators having failed to bring production down to 537,000 bbls. daily by February 10, in conformity with the curtailment program. The average daily production for the last week was 584,500 bbls. Efforts toward the goal continue.

The latest discovery well in the Texas Gulf Coast fields, completed just outside of Beaumont, was choked down to 317 bbls. a day. Extensive development in the area is promised.

An important well in Oklahoma is the Wilcox sand discovery in the Billings pool, Noble County, which Tuesday of this week was reported to have flowed 2,021 bbls. in 2 hours and 40 minutes, with an accompaniment of gas at the rate of 36,500,000 feet daily. The well was not completed. Neither was the deep-sand discovery in the Healdton field in Carter County, an important test still drilling in the Simpson formation.

Production 2,786,781
Increase 12,876

The Trinity wildcat in Titus County, northeast Texas, which struck oil at about 4,208 feet, had not received a production test, but it set off the biggest and fastest leasing campaign in eastern Texas history.

The Rodessa field, opened in North Louisiana, but extending over into Cass County, Texas, is estimated to be 30 miles long, lying northeasterly from Jefferson, Tex. The acreage is held by responsible, conservative operators, which, with the fact that it costs about $60,000 to drill, is expected to insure orderly development. The Lion Oil Co. test, which may extend the pool to the northeast, has not yet yielded definite indications of its character.

All fields north of Oklahoma have been seriously affected by the same deep snows and icy temperatures that have impaired the gasoline market. Development work has been slowed up in many areas.

Daily Average Production for Week

	Feb. 15 1936	Feb. 8 1936	Feb. 16 1935
Oklahoma City	153,125	139,150	159,525
Seminole-St. Louis	90,375	86,150	98,000
Remainder of State	281,275	262,275	249,550
Total Oklahoma	524,775	487,575	507,075
East Texas	434,618	436,803	488,766
West Texas	163,298	159,952	145,002
North Central Texas	81,953	81,847	88,620
Texas Panhandle	55,787	54,497	61,875
East Central Texas	49,950	44,554	51,410
Gulf Coast—Texas	217,446	212,497	174,875
Southwest Texas	70,354	69,548	58,715
Total State of Texas	1,073,406	1,059,698	1,069,263
North Louisiana	54,445	61,305	22,895
Gulf Coast—Louisiana	131,979	133,250	94,455
Total Louisiana	186,424	194,555	117,350
Santa Fe Springs	43,750	47,750	39,300
Long Beach	72,150	73,850	68,000
Mountain View	29,300	32,100	14,500
Kettleman Hills	78,500	92,000	64,500
Remainder of State	360,800	382,550	332,200
Total California	584,500	628,250	518,500
Kansas	135,925	131,575	139,000
Arkansas	29,680	29,670	31,010
Eastern Fields	108,000	99,000	102,000
Michigan	36,601	22,772	38,536
Rocky Mountain area	107,470	109,810	93,800
Total United States	2,786,781	2,773,905	2,616,534

Crude Oil Stocks in U. S.

(BUREAU OF MINES ESTIMATES)

Week ending February 1, 1936	312,857,000 bbls.
Week ending January 25, 1936	313,239,000 bbls.
Week ending February 2, 1935	339,929,000 bbls.

SPARKS FROM THE NEWS

Overflow

Gasoline stocks are now about 1,500,000 barrels above the desired limit on March 31.

Goblins

PAB says U. S. will be short of oil before other nations feel scarcity. Unless it hires PAB?

Delirious

Deep tests on all fronts hold attention. The North Louisiana play has fever these days which is by no means malaria. Welcome temperature.

Meter-ology

And does the natural gas industry echo amen to remark of "Welcome Temperature!" If this hasn't been a delectable gas winter, there is no hope short of return of the Glacial Age. Washington papers, please do not copy.

Millennium

Ten Mid-Continent refineries have shut down with more to follow until weather-depressed demand increases. Who says lesson of curtailment has not been learned?

Risk

Now come California rumors to effect that impending crude price increase may be graduated according to yield. Sounds dangerous since complete cooperation is obviously necessary to achieve 537,000-bbl. goal.

Reality

Much loose talk these days about crude reserves, punctuated freely with astronomical figures. The point is simply this—we are using more oil than we are finding.

High-priced

Latest Panhandle edict of Texas Railroad Commission reduces gas-oil ratio to 8,000 cubic feet per barrel of oil. Plenty costly for certain companies.

Zero

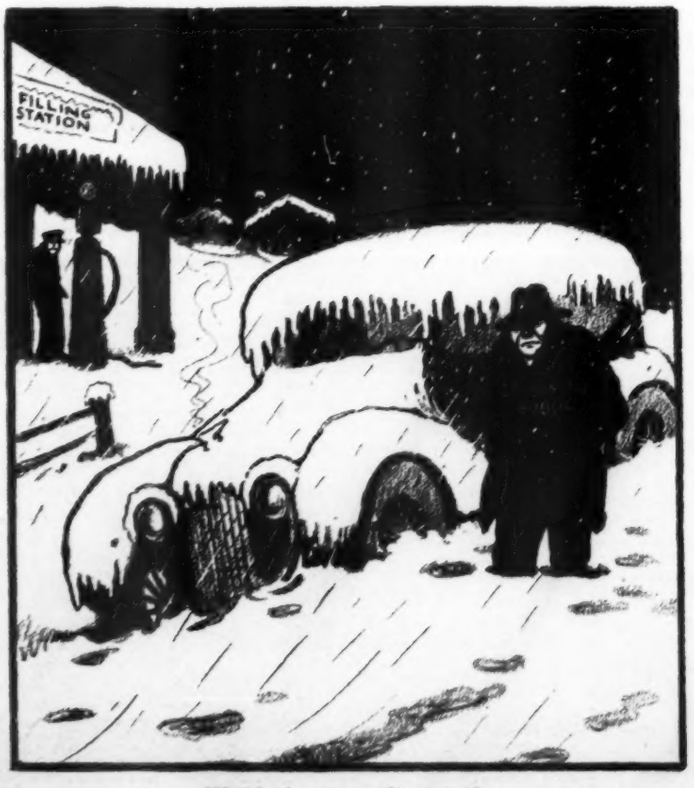
Northwest marketer whose daily average gasoline sales run 1,000 gallons sold 10 gallons one day last week. Next day up to 3 p.m. not a pint did he peddle. Refiners take notice.

Sure!

Motorists paid $100,000,000 more tax in 1936 mostly on gas.

Excelsior!

Forecast of 3,000,000 bbls. daily crude requirement will establish another peak.



Watch those gasoline stocks

Scarecrow

As a market threat, Rodessa simply isn't. Reasons: costly drilling; acreage is in strong hands; recognized possibility of fickle gas pressures.

Habit

Europe blames us for oil ban failure.

Salvation

California crude cut-back comes none too soon. April first would have seen all available storage on Coast filled. Let's see, what day is that?

Shortage of Cracking Capacity Prompts New Construction

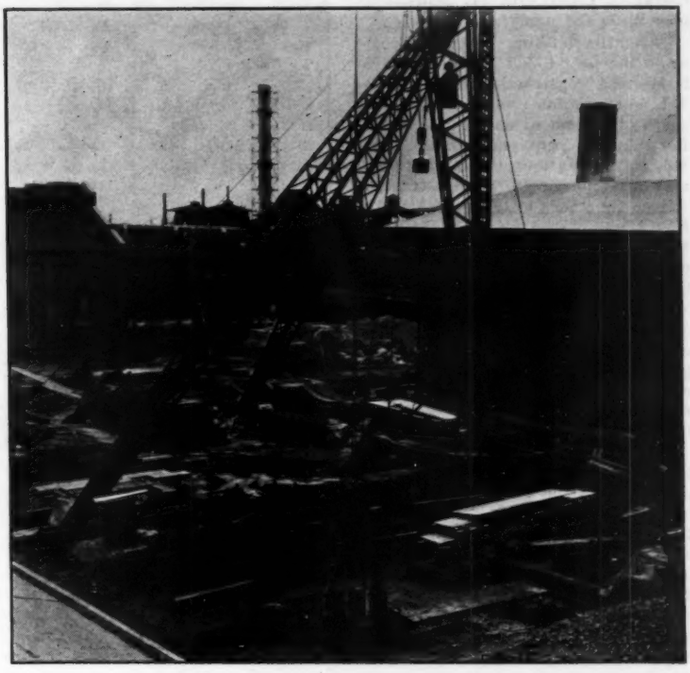
By NEIL WILLIAMS

Requirements which have been placed upon the manufacturing branch of the oil industry by demands for improved products and more efficient operation are reflected in the heavy expenditures which are being made by refiners in the Texas Gulf Coast district in modernizing their plants and in adding new facilities and equipment. Nearly all plants in this district have been undergoing major construction and expansion programs. Included in this building are several plants by companies which previously have not operated on the Gulf Coast. With a number of additional important projects getting under way, or definitely assured to be started shortly, to augment those still uncompleted, refinery construction during the coming year will be on a greater scale than that which already has been done.

This widespread building program on the Texas Coast has been occasioned, principally by the deficiency of cracking capacity and the necessity and desire of refiners to keep abreast of the rapid developments which are being made in refining methods and engineering. Among these developments have been solvent refining, combination crude distillation and cracking, reforming and gas polymerization. The evolution in refining practices and processes is being recognized and refiners are acting to conform their facilities to the trends.

Special incentive for the extensive amount of new construction at this time is given by the generally brighter outlook for the industry. Companies, which for a long period due to unfavorable conditions hesitated to make any expenditures and preferred to curtail their operations, more recently have felt free to proceed with expansion programs and with the modernization of their equipment.

In view of the fact that upwards of one-fourth of the total refining capacity of the United States is concentrated on the Texas Gulf Coast, the great amount of refinery construction going on in the district is of particular significance. This district is the location of a number of individually large plants, several of which in turn are the largest plants in the world. The expansion and modernization of these plants further increases the refining capacity of the district and also its importance in the general picture.



Construction view taken at Magnolia Petroleum Co.'s Beaumont, Tex., refinery during the erection of a 32,000-bbl. combination unit

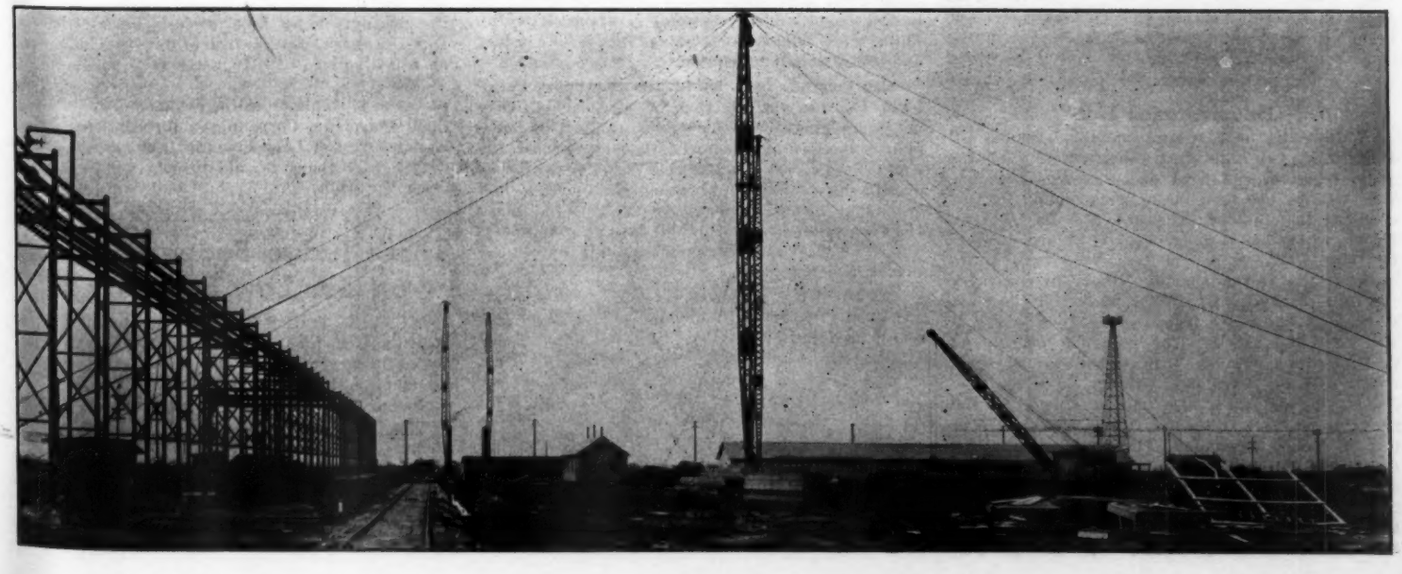
Entrance of the Pan American Refining Corp., a member of the Standard Oil Co. of Indiana group, into the Gulf Coast refining picture by the erection of a 25,000-bbl. combination unit at Texas City a couple of years ago led the wave of new construction which has been sweeping over the district. The capacity of that installation has been entirely inadequate for the company's requirements, and at this time another unit of the same type and of equal capacity is being built. As it has been, Pan American has been running part of its crude to Humble Oil & Refining Co.'s refinery at Baytown for processing under contract.

Pan American Refining Corp. also has under construction a gas polymerization plant, which, with the combination unit, is expected to be completed by the latter part of the year. The polymerization unit will be of the catalytic type.

The combination unit at the Pan American plant was the first to be built on the Gulf Coast. Within the next month, however, Magnolia Petroleum Co. will put in operation a similar unit at its Beaumont refinery. Construction of this was started last August and now is in its final stages of construction. The Magnolia combination unit will be the largest ever put in, having a capacity of more than 32,000 bbls. daily. While similar in general principles, of operation, it will embody a number of departures in processing, chief of which will be the taking of a deeper cut (including all gas oil and lighter fractions) in the initial distillation stage, than is taken usually.

Installation of the combination unit was the second major construction project undertaken by

General view of site upon which Pan American Refining Corp. will build a 30,000-bbl. combination cracking unit, additional power house capacity, and a 24,000,000 feet per day catalytic polymerization unit as part of its expansion program at the Texas City refinery



Magnolia Petroleum Co. at its Beaumont refinery within a year. Late in 1934, a 2,000-bbl. Duo-Sol plant was put in operation for the treatment of charging stock used in the refining of lubricating oils. In its operation propane is used as the paraffenic solvent and Selecto, consisting of Cresylic or tar acids with phenol, as the naphthenic solvent.

Atlantic Refining Co., a newcomer to the Gulf Coast in refining, also is starting construction on a 20,000-bbl. combination unit at Atreco, south of Beaumont on the Beaumont-Port Arthur ship channel. A 1,200-bbl. polymerization plant of the thermal type also will be constructed. Atreco is the location of Atlantic Pipe Line Co.'s terminal. Atlantic Refining Co. until now has never operated any refinery on the Gulf Coast, and completion of this construction project will add another entirely new major company refinery to the Gulf Coast's rapidly expanding refining facilities. It is estimated Atlantic will spend in the neighborhood of $3,000,000 in its building program.

Both the Texas Co. and Gulf Oil Corp. of Pennsylvania have completed within the last several months installations of furfural solvent refining plants for treating lubricating oil charging stocks. The Texas Co. plant, the more recently completed, has a capacity of 4,000 bbls. daily while the Gulf installation can handle 5,000 bbls. daily. Gulf early last summer also put in operation a new solvent dewaxing plant with a capacity of 950 to 1,000 bbls. daily. This plant is the first to use methyl-ethyl-keytone as one of the agents.

Combination Units

In addition to the dewaxing unit and the furfural plant, Gulf also has added new vapor recovery and stabilizing equipment, and at present is engaged in a project of converting a number of its old pipe stills into combination skimming and cracking units.

The Texas Co. also has completed additions to its asphalt plant at Neches, south of Beaumont on the Port Arthur ship channel. The capacity of the plant has been increased by these additions approximately 200,000 bbls. monthly. The plant is operated on heavy Gulf Coast and South American crudes.

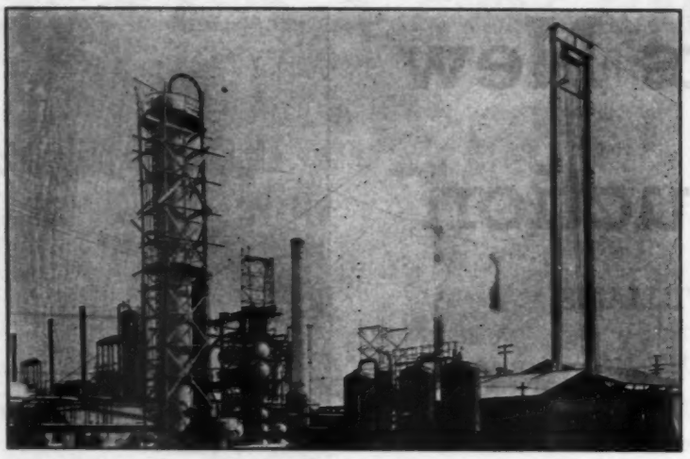
One of the most interesting and significant recent refinery additions is the Iso-octane plant built by Shell Petroleum Corp. at its Deer Park (Houston) refinery. The installation is the first of its kind. It takes the cracked gases and through a process of polymerization and treating, and hydrogenation, turns out a product consisting of practically 100 per cent Iso-octane.

Shell Petroleum Corp. has under construction at this time an additional 10,000-bbl. reforming unit, which is expected to be completed within the next several months. This company also has been steadily making additions to its distillation equipment, and at this time the plant is becoming one of Shell's most important refineries.

Polymerization Plant

Within the next several months, Humble Oil & Refining Co. will start construction of a gas polymerization plant at its Baytown refinery. This will be the first major construction by this company in a number of years. The Baytown refinery, which has a daily capacity of around 140,000 bbls. daily, is one of the two largest refineries in the world, sharing honors in size with the Gulf plant at Port Arthur. Plans for the polymerization plant are being worked out and bids will be asked shortly. The unit will operate on propanes and butanes transported to Baytown from the East Texas field through an 8-inch pipe line, laying of which also will be started in the near future. This is the first time such a project has ever been attempted. The propanes and butanes will be brought to Baytown in a mixture of natural gasolines. This material will be fractionated at Baytown, Humble retaining the butane and propane, and Hanlon-Buchanan, Inc., which will deliver propane, butane and natural gasoline to the Humble in East Texas, will take its portion of the natural gasoline.

Republic Oil & Refining Co., another expanding company, has a new construction project under way at its Texas City refinery, involving



Stabilizer being erected at the Houston refinery of the Shell Petroleum Corp. To the right a 10,000-bbl. reforming unit is being built

the installation of an additional furnace for its cracking plant, and an additional boiler for its power plant. It is possible that other cracking and distillation equipment will be built later this year. Early last summer, this company installed a complete vapor recovery and stabilization plant, which has materially increased the efficiency of the refinery's operation.

Announcement has just been made that Eastern States Petroleum Co., Inc., will start construction immediately of a Dubbs two-coil, selective cracking unit and a naphtha reforming unit at its Houston plant. The present plant which has a capacity of 5,000 bbls. daily, recently was purchased from Deepwater Refineries, Inc., after having been operated under lease since last summer. The new installation, which will be able to top and crack in continuous operation, will have a capacity of 10,000 bbls., with a cracking capacity of 6,400 bbls. daily of topped crude. The reforming unit will have a capacity of 1,100 bbls.

Replacement Plan

Crown Central Petroleum Corp. has been building a two-stage atmospheric and vacuum distillation unit to replace the shell still battery at its Pasadena (Houston) refinery. New power plant facilities also have been provided. During 1934, this company provided a gas recovery absorption and stabilizing plant for the refinery; installed a boiler feed water preheating system; revamped two batteries of Holmes-Manley stills, converting them from high level to low level operation; rebuilt its acid recovery system; revamped its rerun unit; built additional storage and also consider able other auxiliary equipment.

Contract has been let by the Southport Petroleum Co. for the erection of a 6,000-bbl. Donnelly cracking plant at Texas City. This company sometime ago acquired the old Sinclair Refining Co. properties at Texas City, including storage facilities and a skimming plant which had been shut down for many years. This old plant has been renovated and now is being put in operation. The cracking unit will be built in connection with this plant.

Stone Oil Co., which operates a 5,000-bbl. plant at Texas City, recently added a pipe still for viscosity breaking.

Bennett Refining Co., which recently acquired the two Houston refineries of the Phoenix Refining Co., is overhauling the pipe still and fractionating equipment of one of the plants. It is reported that the company will build a small cracking unit.

At Bay City, about 90 miles southwest of Houston, Phoenix Refining Co. within the past several weeks has completed a 1,000-bbl. skimming plant. It will be operated primarily with crude from the Bay City (Van Vleck) oil field, which is being developed by Skelly Oil Co.

Wood-Moore Corp. is building a 2,000-bbl. skimming plant at Port Lavaca, in Calhoun County, which will be operated on crude from the Port Lavaca field. The refinery is on a 20-acre tract west of town and a 4-inch pipe line will connect the plant with the field, which is on the opposite side of town.

A small plant at Houston which is owned by the Southern Pacific Railroad, but which has not been operated for five years, was leased several months ago by the Mac-Cook Oil Co., which has remodeled the plant for the refining of fuel oils and lubes. Southern Pacific at one time operated the plant in the refining of fuel oil.

At Point Isabel near Brownsville, at the extreme southernmost point of the Texas coast, Coastal Refineries, Inc., recently put in operation a 5,000-bbl. topping and cracking plant. It is being operated on crude from the Samfordyce field in Hidalgo County. In connection with the refinery, terminal facilities and docks have been provided for movement of crude and refined products by tanker.

Corpus Christi Refining Co. recently added a 1,000-bbl. tube still and new fractionating equipment at its Corpus Christi refinery. The company formerly operated only a 1,000-bbl. cracking unit. Additional tankage also has been provided.

TVP Corp. (Petroleum Conversion Corp.) early last autumn built a small control unit at its plant in Texas City. The unit has been in almost continuous operation making test runs of various charging stocks. The commercial size plant at Texas City has been shut down for a number of years.

Lone Star to Purchase Gas from Cayuga Field Wells

PALESTINE, Tex., Feb. 17.—An agreement under which the Lone Star Gas Co. will purchase gas from wells of Roeser & Pendleton, Inc., in the Cayuga field has been filed here.

Lone Star will pay Roeser & Pendleton 3 cents per 1,000 feet for all gas taken prior to and including December 31, 1936. During 1937 and 1938 the price will be 4 cents per 1,000 feet. In 1939 and 1940 Lone Star will pay 5 cents per 1,000 feet. On and after January 1, 1941, the price will be 6 cents per 1,000 feet as long as the agreement remains in force. Equitable taking of gas from all wells is provded for.

Lone Star Gas Co. recently completed the Cayuga-Long Lake stretch of the 110-mile 20-inch carrier line from Anderson County fields to Dallas and the line is now carrying gas from both the Cayuga and Long Lake fields. Ford, Bacon & Davis was general contractor for the line, work on which started last August.

The Lone Star Co. is again reported planning to lay a new line from Long Lake to gas wells of Shell Petroleum Corp. in the Buffalo area, about 25 miles west of Long Lake, in Leon County, where the Shell company is said to contemplate drilling other gas wells.

Three Judge Federal Hearing on Gas Law February 28

AUSTIN, Tex., Feb. 17.—Federal Judge R. J. McMillan scheduled a three-judge hearing in Houston, February 28, in a gas conservation act suit brought by the Portland Gasoline Co.

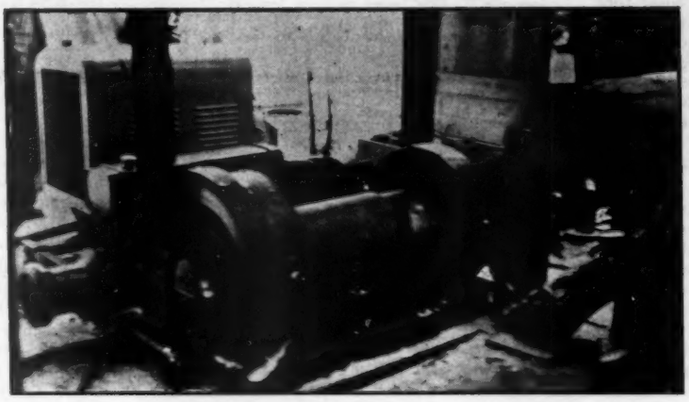
Judge McMillan will sit with Circuit Judge Joseph C. Hutcheson of Fort Worth, and District Judge T. M. Kennerly of Houston.

The company, operator of sweet gas wells in Gray and Carson Counties and a gasoline extraction plant near Pampa, recently was denied a temporary restraining order. It attacked validity of the law and a Railroad Commission order.

High Pressure Gas Sands in Eastern Fields Necessitates Use of Rotary

By R. C. CONINE

In the Oriskany gas sand fields of Pennsylvania and New York it has been usual practice to drill the wells with cable tools. Troubles have developed, however, because while drilling in, gas under pressures up to 2,000 pounds per square inch has been encountered and has quickly built up the volume from 1,000,000 to as much as 44,000,000 feet per day so the tools have been blown up the hole and fishing jobs resulted. To avoid these blowouts operators are now resorting to rotary methods of completing the wells. Success of Belmont Quadrangle Development Co. with this type equipment on its test in Willing Township, Allegany County, New York, makes this change in operation a practical certainty.



Drawworks and multicylinder engine

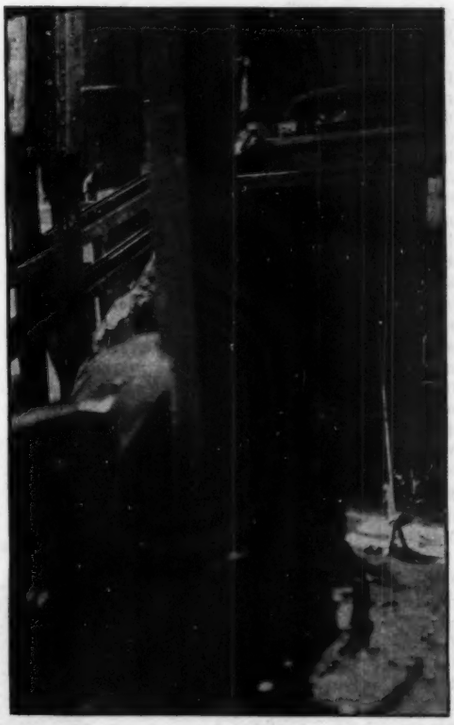
Blowing in 44,000,000 feet of gas

The changeover to rotary, according to Frank Brewster, president of the Belmont company, was made to eliminate the dangers to life and property ever present when the high pressure wells are drilled in with cable tools. When the Van Campen well was completed in the State Line district in September the cable tools were blown up in the hole and stuck with 480 feet of wire line on top of them. The wire line shutting off the flow of gas acted as a reducing orifice, causing freezing. It was necessary to introduce hot salt water to partly kill the well. Fishing was done with 2,000 pounds pressure to counteract rock pressure. In the three months required to recover the tools by fishing with tubing, through high-pressure equipment, high-pressure lubricator and cable tools, a constant pressure of 500 pounds on the column of fluid in the hole had to be held.

In the Regan well completed with rotary by Belmont, cable tools were used down through 15 feet of Onondaga. The well was then cased and cemented. The cement was drilled out and 11 feet of lime was drilled before switching to rotary equipment. Two-inch external upset tubing with rock bit on bottom was run into the hole. A 3-inch kelly was connected to the drill pipe through a square kelly type pack-off head. This pack-off head was joined through a quick union to two ram blowout preventers above a special type tubing bradenhead. This arrangement makes it possible to run in equipment to change bottom-hole choke beans, or to resume drilling with pressure equalized above and below the tools. The rock bit is left on the bottom of the tubing, the gas is taken through the water course in the bit and produced through the 2-inch tubing (drill pipe) with suitable choke installed at bottom of the tubing. With the choke at the bottom of the tubing the temperatures at that depth are sufficient to prevent freezing due to reduction of pressure.

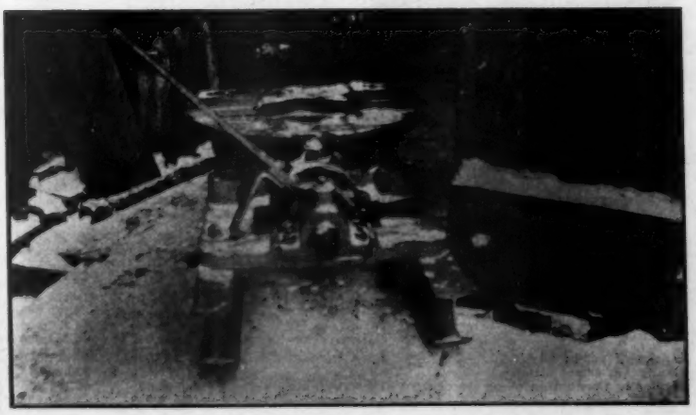
When gas was struck in the Regan well the string was raised to remove the kelly and bring tubing in contact with the blowout preventers. After closing the rams in the equipment on the tubing the kelly was broken out, a check valve set 60 feet from top of string of tubing preventing loss of gas or water through the tubing. All equipment above the special tubing bradenhead was then removed and a mixing valve was connected to this bradenhead.

In the Regan well the pay was scarcely touched when production went up to 11,000,000 feet. It is probable more of the sand will be drilled when weather conditions improve. In this case it will be necessary merely to reassemble the two ram blowout preventers and the square kelly type pack-off head above the special tubing bradenhead. Bottom-hole choke and check valve are removed to permit circulation of drilling fluid.



Elevated turntable

Skidding rotary table into derrick



The Texas drillers imported to handle the rotary equipment on the Regan well said the formations encountered were the hardest in their experience. Nine feet of lime finished one bit, while a second bit had to be changed after drilling 3 feet of lime and 1 foot of sand with water used as circulating fluid. When the third bit was run into the hole a 4 per cent solution of mud fluid was circulated. This fluid proved highly satisfactory, carrying out all of the cuttings. Pumping equipment was used to circulate the fluid.

Domestic Gasoline Demand Forecast Indicates New Peak During 1936

A review of the petroleum situation and a forecast of the demand for motor fuel during the year 1936, compiled by Fred Van Covern, director of the department of statistics of the American Petroleum Institute, was read before the annual meeting of the American Institute of Mining and Metallurgical Engineers in New York, February 20. The salient sections of the paper follow:

(a) Motor Fuel Demand. The forecast of the domestic demand for motor fuel during 1936 indicates a probable shipment of 464,300,000 bbls. On a daily average basis this is 6.5 per cent above preliminary figures of 1935, which show that 434,873,000 bbls. were shipped to the trade during that year.

Export Demand

Export demand is calculated at 28,800,000 bbls., a decrease of approximately 1,500,000 bbls. below 1935 export shipments.

The total demand forecast for the year, or 493,100,000 bbls., compares with 465,253,000 bbls. total shipments for 1935, or an increase of 5.7 per cent, considering the extra day in 1936.

(b) Crude Oil Runs to Stills. Required runs to stills for the year are estimated at 2,740,000 bbls. per day. This compares with the 2,647,200 bbls. daily actually run to stills during 1935 and is calculated on a basis of 44.5 per cent yield of gasoline from crude oil. Runs to stills reach a maximum of 2,880,000 bbls. daily in August, while yields are indicated as almost constantly increasing until a maximum of 45 per cent is reached in December. Daily average runs to stills by quarters follow: First, 2,620,000 bbls.; second, 2,790,000 bbls.; third, 2,840,000 bbls., and the fourth, 2,710,000 bbls. daily.

(c) Gasoline Inventories. The above indicated rates of runs to stills were predicated upon two assumptions: (1) That the industry is unanimous in recognizing the desirability of arriving at the beginning of the high-consuming season in a not overstocked position, and (2) that it is equally desirous of entering the 1936-1937 winter season without surplus inventories.

Economically desirable levels of inventories of finished and unfinished gasoline for the industry as a whole are placed at 66,000,000 bbls. as of March 31, and 50,000,000 bbls. as of September 30.

(d) Requirements of Domestic Crude Oil. The total demand for domestic crude oil is estimated at 2,880,000 bbls. daily for the year. By quarters the figures are: First, 2,760,000; second, 2,940,000; third, 3,000,000 and fourth, 2,830,000 bbls. daily. These are total requirements after allowing for all domestic uses and exported amounts, and also imports of crude, but before any withdrawals from storage.

(e) Crude Oil Inventories. Neither additions to nor withdrawals from crude storage are indicated in the forecast for February and March. There seems actually to have been withdrawn during January about 1,000,000 bbls. Total withdrawals for the year are placed at 18,300,000 bbls., or 50,000 bbls. per day, most of which is spread over the period from April 1 to November 30. December indicates neither withdrawals nor additions.

GAS AND FUEL OIL INVENTORIES

January 31, 1936 (estimated) vs. January 31, 1935

	Gas oil and distillate fuel oils	Residual fuel oil	Total
East of California:			
1935	12,782,000	25,274,000	38,056,000
1936	10,000,000	21,000,000	31,000,000
California:			
1935	5,239,000	60,879,000	66,118,000
1936	6,000,000	63,000,000	69,000,000
Total United States:			
1935	18,021,000	86,153,000	104,174,000
1936	16,000,000	84,000,000	100,000,000

(f) Domestic Crude Oil Production. Applying the indicated stock changes to our calculated total requirements of domestic crude oil, we arrive at the necessary new crude oil production. The daily average for the year is 2,830,000 bbls., compared with actual production of 2,722,600 bbls. during 1935.

By quarters the calculation indicates the following levels: First quarter, 2,740,000 bbls.; second quarter, 2,870,000 bbls.; third quarter, 2,900,000 bbls., and the fourth quarter 2,820,000 bbls. daily.

We are of the opinion that actual gasoline inventories at the end of the first quarter will be, for the country as a whole, considerably above 66,000,000 bbls. unless the rate of production of gasoline is reduced between now and then.

If the 66,000,000-bbl. mark is exceeded, the industry will, so to speak, have borrowed production to that extent from the second and third quarters, provided again, however, that it desires not to enter the following winter season with an inventory carry-over.

If runs to stills are continued at the January rate during February and March, an inventory level of 71,000,000 bbls. or more is not at all unlikely. In defense of the large additions to storage during recent weeks, especially, one must admit that it has been difficult to move gasoline to many unreported secondary supply points because of the prevailing weather conditions. When waterways open up and it becames easier to transport supplies to these points shipments may show increased activity and in that way tend to reduce inventories at primary terminals and other reporting points.

The industry seems already to have worked itself into a position of disadvantage in unfinished gasoline which will grow worse before the end of the first quarter.

Crude Oil Inventories

On October 31, 1929, crude oil inventories amounted to 433,500,000 bbls., the all-time peak of crude oil in storage. Declines were indicated in subsequent years but again increases were registered until on August 31, 1933, they had reached a level of 359,945,000 bbls. Since that date there has been, with slight variations, almost continuous improvement in these figures until on December 31, 1935, there were 314,631,000 bbls. in storage, the lowest level since the latter part of 1926.

While only a slight change in these inventories is shown during the first quarter, the desirability of further liquidation over the longer term must be recognized. The Bureau of Mines considers the industry's 1940 requirements of crude oil in storage above ground to be about 200,000,000 bbls. While no detailed studies of those requirements have ever been completed, the writer, nevertheless, is of the opinion that the figure has been placed at too low a level and that 250,000,000 bbls. more nearly represent the minimum requirements of today, in order that the industry may conveniently and economically conduct its business, and, it seems reasonable to say that if that amount is necessary now, the requirements of 1940 may reasonably be expected to be higher.

It is felt, however, that 50,000 bbls. per day or a total liquidation of 18,300,000 bbls. during 1936 would be neither impossible nor unreasonable. During 1934 the draught amounted to 16,969,000 bbls. while in 1935 about 22,600,000 bbls. were withdrawn.

Gas and Fuel Oil

How much of the present condition of gasoline inventories is directly traceable to the relatively low levels of distillate and residual fuel stocks and the consequent desire of the industry to increase the production of these products—through increased runs to stills—is, of course, impossible to say but there may be a very direct connection.

Figures by districts for January are not yet available but it would appear that the over-all picture for the end of that month is about as shown in the accompanying table on gas and fuel oil inventories.

We have called attention to, and we are continuing to remark about, the high rate of cracked gasoline production. Is cracked production increasing as rapidly as figures seem to indicate or is some of this increase due to the possible inclusion of reformed gasoline, gasoline made from refinery gases, and the gasoline produced as a result of operation of continuous distillation units?

Straightrun gasoline production yields appear to be constantly decreasing. Is straightrun production really decreasing as rapidly as yields indicate, or, is it because more and more cannot be separated out of the total actual production of gasoline and is therefore reported with the cracked production?

MOTOR FUEL AND CRUDE OIL SUPPLY AND DEMAND

(Barrels of 42 gallons)

			Year 1934	Preliminary 1935	Estimated 1936
Demand:	1.	Domestic	410,339,000	434,873,000	464,300,000
	2.	Export	24,686,000	30,380,000	28,800,000
	3.	Total	435,025,000	465,253,000	493,100,000
Supply:	4.	Imports	1,000	20,000	.....
	5.	Benzol	1,798,000	1,877,000	2,080,000
	6.	Natural gasoline supplied direct	8,334,000	8,780,000	8,520,000
	7.	Total supply of other than refinery motor fuel	10,043,000	10,677,000	10,600,000
	8.	Supply of refinery motor fuel	424,982,000	454,576,000	482,500,000
	9.	Change in finished stocks only	—8,050,000	+3,116,000	—2,947,000
	10.	Production of finished at refineries	416,932,000	457,692,000	479,553,000
	11.	Per cent of natural gasoline blended	6.7	6.7	6.8
	12.	Amount of natural gasoline blended	28,162,000	30,573,000	32,546,000
	13.	Production of finished straightrun and cracked	388,770,000	427,126,000	447,007,000
	14.	Change in unfinished stocks only	—2,873,000	+1,032,000	—746,000
	15.	Production (finished and unfinished) from crude oil	385,897,000	428,152,000	446,261,000
	16.	Per cent yield	43.09	44.31	44.5
	17.	Total production of gasoline from crude and amount blended	414,059,000	458,724,000	478,807,000
Stocks:	18.	Finished gasoline	47,531,000	50,647,000	47,700,000
	19.	Unfinished gasoline	5,014,000	6,046,000	5,300,000
	20.	Total finished and unfinished gasoline	52,545,000	56,693,000	53,000,000
Crude oil:	21.	Runs to stills: Total	395,636,000	966,243,000	1,002,880,000
		Daily average	(2,454,000)	(2,647,200)	(2,740,000)
	22.	Exports	41,127,000	51,378,000	51,500,000
	23.	As such and transfers to fuel in California	23,829,000	31,003,000	32,400,000
	24.	Total demand for crude oil	960,592,000	1,048,624,000	1,086,780,000
	25.	Imports of crude oil	35,558,000	32,239,000	32,100,000
	26.	Requirements of domestic crude oil: Total	925,034,000	1,016,385,000	1,054,680,000
		Daily average	(2,534,000)	(2,784,600)	(2,880,000)
	27.	Stocks of crude oil	337,254,000	314,631,000	296,331,000
	28.	Change in crude oil stocks	—16,969,000	—22,623,000	—18,300,000
	29.	Domestic production of crude oil: Total	908,065,000	993,762,000	1,036,380,000
		Daily average	(2,488,000)	(2,722,600)	(2,830,000)

Engineers Discuss Home and Foreign Fields at A.I.M.E. Annual Meeting

NEW YORK, Feb. 20.—Engineers here from all parts of the oil country to attend the annual meeting of the American Institute of Mining and Metallurgical Engineers found that important developments have taken place over the past year in methods of finding oil. In two symposia, one devoted to domestic fields and the other to fields outside this country they were told of the practical accomplishments of these new methods in helping to make possible the largest production in the history of the petroleum industry in 1935.

Equipment for aerial surveys with maps and photographs were explained showing progress in securing geological information on large areas for petroleum development. The use of aerial photograph in the location of pipe line systems was also discussed. Another session held on Tuesday was devoted to several papers on geophysical methods of prospecting. These papers reflected the steady strides that have been made in the application of this scientific method of finding and drilling promising oil structures.

The domestic and foreign production symposia in which the important statistical and development work of the past year were reviewed also pointed to increased activity in 1936 in several states and foreign countries. The reviews showed that while new discoveries over the past year have added to proven oil reserves increased activity was necessary if supply was to keep pace with an increasing demand.

Technical Session

The final technical meeting of the petroleum division was presided over by Sidney Swensrud, with Dr. Joseph E. Pogue acting as vice chairman and covered Petroleum Economics. The first paper was presented by Fred Van Covern, entitled "Trend of Consumption, Production, Exports and Imports of Petroleum." Dr. Pogue then read his paper on "The Roll of Drilling in the Functioning of Proration." The other two papers presented at this session were "Future State and Federal Oil Regulation" by Northcutt Ely of Washington, D. C., and "Marketing Conditions" by Paul G. Blazer.

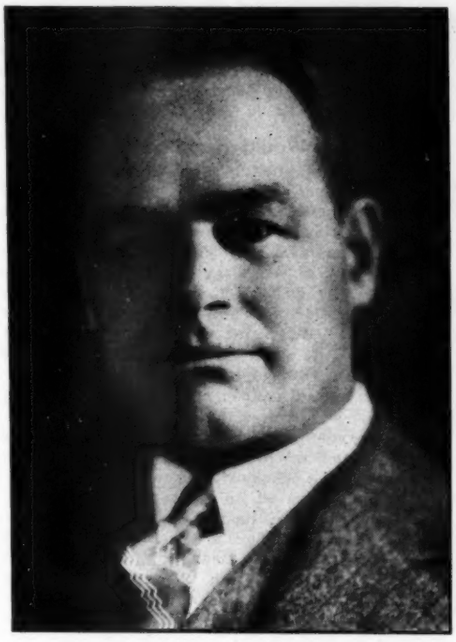
Dr. Pogue summarized his paper by stating that the thesis has been advanced that proration, even though effective in balancing current supply and demand, tends to create unbalance by stimulating discovery and subsequent overdrilling. This tendency is brought about by the price structure that the control inclines to establish. The only effective natural opposing factor is a deficit discovery, but a temporary condition of this kind is apt to become the basis of a rationalization process and persist after the condition has changed. Proration, therefore, except under conditions of subnormal discovery, cannot be depended upon as a competent instrumentality for maintaining equilibrium, unless it does one of two things:

(a) Produces a price that will keep discovery and development drilling in equilibrium with demand, which would probably have to be a low-profit price; or,

(b) Develops an effective restraint on drilling which will prevent the discovered, but undeveloped, reserve from absorbing capital too rapidly and thus becoming converted into an excess potential.

A program for the effective support of proration should, therefore, include the following provisions:

(a) Furtherance by the petroleum industry of a consistent policy of relatively low oil prices



JOHN M. LOVEJOY
Seaboard Oil Company, of Delaware
President, A.I.M.E.

so long as potentials are large and the discovery rate shows any tendency to exceed the production rate; so long, too, as a maximum demand is a desideratum in maintaining balance.

(b) Promotion by the petroleum industry of retarded field drilling through wider well spacing and unit operation.

(c) Advocacy by state regulatory bodies of formulae for lease allowables that will normalize, and not overstimulate, drilling. The acreage factor will accomplish this result.

(d) Support by state regulatory bodies of prescribed programs of wide well spacing.

Another session of interest to petroleum geologists started on the morning of February 18 when geophysical methods of prospecting were discussed. E. De Golyer was chairman and W. B. Heroy, vice chairman of the first meeting and the first paper on "Electrical Mapping of Oil Structures" was presented by J. J. Jackson and Clyde H. Wilson, of International Geophysics, Inc., Los Angeles, Calif. In their paper they pointed out that four years of research work has developed a new method of geophysical prospecting which allows accurate and detailed mapping of structure to depths of 3,500 to 4,000 feet.

The two geophysicists stated the method has been applied extensively in California during the past 18 months with numerous checks on accuracy. The paper was illustrated and the kind of equipment used by which the electrical currents are sent through the ground to determine the variations in resistivity was shown.

Possibilities in Brazil

Another paper of interest to the petroleum geologist was presented by Mark C. Malamphy of Rio de Janiero, Brazil, covering the details of an extensive study of the Sao Pedro area in Brazil made to determine oil possibilities in that region. Dr. D. C. Barton of the Humble Oil & Refining Co., Houston, Tex., also had a paper on "Quantitative Calculations of the Cap Rock from the Torsion Balance Survey of Hoskins Mound, Brazoria County, Texas."

"Thermometric Measurements in Drill Holes" by E. G. Leonardon of Schlumberger Electric Coring Co. of Houston, Tex., was the next paper presented, and it was followed by a paper on the "Mathematical Theory of Electrical Coring" by A. Beliuigi. The last paper on Tuesday's program was presented by H. H. Pentz and covered "A Formula for the Calculation of the Slope of the Reflecting Horizon in Seismic Reflection Prospecting."

Left, M. Albertson, Shell Petroleum Corp., vice chairman, Petroleum Division, A.I.M.E. Right, William B. Heroy, Consolidated Oil Co., vice president, A.I.M.E.

Texas Allowable Up

AUSTIN, Tex., Feb. 18.—The Texas Railroad Commission announced, at its hearing to fix March oil production allowables, that the U. S. Bureau of Mines has reported a Texas market demand of 1,104,000 bbls. daily for March, an increase of 35,700 bbls. over its February figure, which showed a gain of 51,300 bbls. daily over January.

The commisison said the increase "is taken up by production from new wells," indicating present state allowables, fractionally below the federal estimate, will remain practically unchanged.

Magnetic Storm

Tucson Observatory of the U. S. Coast and Geodetic Survey report moderate magnetic storm started at 5 a.m. (C.S.T.) on February 16 and ended at 4 p.m. (C.S.T.) Feb. 17.

Effects of Social Security Act Upon Oil Industry Analyzed

The effect in the oil industry of the new federal Social Security Act covering unemployment insurance and pensions has been analyzed in an article in the Wall Street Journal by Arundel Cotter and Thomas W. Phelps, copyrighted by Dow, Jones & Co., from which the following has been extracted by permission.

If the maximum payroll taxes provided under the new law had been in effect in 1934, they would have taken 16.9 per cent of leading companies' net profits for the year. But a great many factors operate to increase or decrease oil profits that much from year to year. The maximum rate of payroll taxes would have taken only 4.9 per cent of leading oil companies' 1929 net.

An indication that the act will bear much more heavily on small companies than on the larger ones is the fact that the tax on 1934 payrolls for the entire industry, at the maximum rate, amounts to more than 13 per cent of the 1929 earnings of all the industry.

None of these calculations make any allowance for possible reduction or abandonment of present dismissal compensation and pension plans heretofore voluntarily supported by oil companies.

Based on the tax rates for 1949, the first year that the Social Security Act will be in full force, and assuming present payrolls, the increase in oil company operating costs and expenses would be nine-tenths of 1 per cent of what they were in 1934.

Even smaller, of course, about four-fifths of 1 per cent, is the ratio of the maximum levies to 1934 oil company sales. If oil companies could get one-third of a cent a gallon more for gasoline, on the basis of 1934 sales, that alone would foot the bill as it would apply to them directly. How much their operating costs will be increased as a result of widely varying increases in the cost of materials, supplies and services likewise attributable to the payroll taxes is incalculable.

Companies in Survey

Nine leading oil companies cooperated in the Wall Street Journal's survey of the effects of the Social Security Act on their industry. They are: Consolidated Oil Corp., Phillips Petroleum Co., Pure Oil Co., Socony-Vacuum Oil Co., Standard Oil Co. of California, Standard Oil Co. (Indiana), Standard Oil Co. (New Jersey), Sun Oil Co., and one other which requested its name be withheld.

Sales of the nine companies aggregated $2,487,363,000 in 1934. Costs and expenses, including depreciation and depletion, totaled $2,235,046,360. Net profits, after deducting a loss shown by one of the nine, amounted to $124,639,131.

The nine companies estimated their 1936 federal payroll tax of 1 per cent for unemployment insurance at a total of $3,697,282.

Thus for the current year the Social Security Act will cost the oils just over one-seventh of 1 per cent of their 1934 sales, will add less than one-sixth of 1 per cent to their operating costs, based on figures for the same year, and if deducted from 1934 profits would have reduced the total by 3 per cent.

Ratio of the 1 per cent payroll tax to 1934 sales was from one-fourth of 1 per cent to one-fifth of 1 per cent for most companies, the highest being less than one-third of 1 per cent and the lowest one-twelfth of 1 per cent. Ratio to profits varied more widely, one extreme, of course, being the tax on the company showing a net loss for the year, and the other being only 1.6 per cent of 1934 profits.

Next Year's Costs

Next year, 1937, assuming the federal law is still in effect in its present form, the oil companies will be required to pay 2 per cent, instead of 1 per cent, under the unemployment insurance title of the law, and in addition will be required to pay 1 per cent of all wages and salaries up to $3,000 a year into the federal old age pension fund. One company estimated that its wages and salaries up to $3,000 annually comprised 96.77 per cent of its total payroll. On that basis for all companies, the aggregate levy under the Social Security Act for 1937 will be roughly 2.9 times the 1936 tax, or, still on the basis of current payrolls, $10,722,118. That sum represents slightly more than two-fifths of 1 per cent of 1934 sales, slightly less than one-half of 1 per cent of 1934 costs and expenses, and 8.6 per cent of 1934 net profits.

In 1938 the total tax rises another 1 per cent, and 11 years later is scheduled to reach its maximum of 3 per cent of all payrolls for unemployment insurance, plus 3 per cent of all payrolls up to $3,000 a year for the old age pension fund. These levies on the employers are, of course, in addition to the 3 per cent tax to be paid by workers on their wages and salaries up to $3,000.

What Would Happen in 1949

An inkling of the impact of the program on the oil industry in 1949 is obtained by applying rates then to be in effect to present day pay rolls. Again using the estimate that 1 per cent of pay rolls up to $3,000 equals roughly 90 per cent of total pay rolls, the current year's tax at 1949 rates would be 5.7 times the $3,697,282 actually estimated for 1936, or $21,074,507. This would be five-sixths of 1 per cent of 1934 sales, would add just under 1 per cent to 1934 operating costs and expenses, and would absorb 16.9 per cent of 1934 net profits.

Such a levy, already on the statute books, would exceed the net profit of another of the eight companies, not counting the one already showing a loss for 1934, and would be nearly 10 per cent the earnings of the company least affected by it.

For the entire oil industry, the American Petroleum Institute estimates the 1934 pay roll at $1,216,764,000, on which a 1 per cent tax would amount to $12,167,640. Assuming the same pay roll in 1949, the tax would be $69,355,548. Gasoline consumption in the United States in the same year approximated 17,200,000,000 gallons. If the tax were to be paid on the industry's total pay roll, it would require an increase of between one-third and one-half cent a gallon to meet it. Actually, 53.5 per cent of the 721,800 employes reported as being in the marketing division of the industry are not employes of oil companies, but are described as "individual filling-station proprietors and their employes engaged directly in retailing petroleum products."

Many Would Be Exempt

As the unemployment insurance tax applies only to employers of eight or more, many of those individual filling-station businesses would be exempt, a fact which incidentally should favor that type of marketing arrangement as against the company-owned filling station. If none of the individual filling-station proprietors paid the unemployment insurance tax, the total payable by the industry at the maximum rate would be reduced by something like $6,874,000, to $62,481,000, which would be equal to just over one-third of 1 cent a gallon, on gasoline alone. For comparison, the gasoline sales tax alone amounted to $709,321,700 for 1933, the latest year for which complete figures are available.

In principle, it was suggested by several of the companies, it might have been much better to take steps assuring workers wages adequate to enable them to make their own provisions, and to encourage the making of such provisions through insurance companies. This, it was asserted, would be likely to command more respect than a social security plan administered by the government and consequently subject to the vagaries of political control and management.

"From the point of view of the workers in industry as a whole," wrote the secretary of one of the companies, "no doubt an orderly method of providing for unemployment would be an advantage over the very wide range of practices, or lack of practices, prevalent in American industry generally. The implications of the present act, however, appear to be very far reaching. The effects upon the economic life of the nation, having in mind the tremendous sums that must find investment at interest, and the bureaucracy that would appear inevitable, leave grave doubts as to the success of the present act in bringing about the ultimate security of the worker. Social security in theory is undoubtedly constructive, but the selected methods of accomplishment are open to serious question in the minds of many in the light of the known results of other countries in tackling this problem."

Pension "Mere Pittance"

The federal pension plan is a "mere pittance," wrote the president of another company.

"Undoubtedly you realize that the fundamental difference between a company pension plan and the federal plan is that under the latter the contributions made by the employer are identified to the particular employe and follow him throughout his industrial career regardless of whom he works for; whereas under the company pension plan the contributions of the company are set up for the group and are used for annuities only to those remaining with the company until retirement. It is the labor turnover factor which makes it possible under the latter type to plan to pay such large annuities.

"I think there is no question but what the cost of continuing our present pension plan as to salaries under $3,000 a year, and also paying in the federal plan will be prohibitive. From the point of view of operating efficiency this eventually will be a serious matter, because the primary benefit to an employer from a pension plan is the graceful release of men whose efficiency has become impaired and who are slowing up the organization. It will be a difficult job for a manager to let out an old man if all he will have to live on is the meager pension provided by the Social Security Act. Most older companies, if they do not have a formal pension plan, are carrying an informal one. They are keeping people on the pay roll who are not producing."

Too Hastily Drafted

Congress could not appreciate what an involved and difficult piece of legislation it was shaping, another executive wrote.

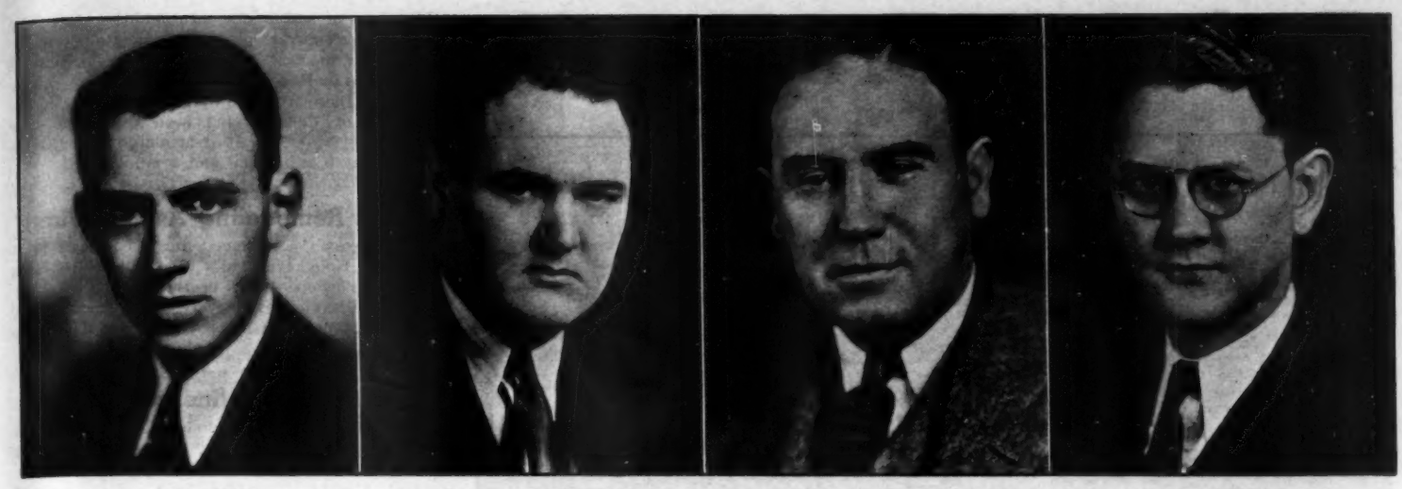
"It would seem to me," he said, "that a committee of experts should have been at work on social security legislation for years before it would have been reasonable to expect the emergence of a practical plan. No one knows yet what the cost of the Social Security Act will be. It is certain it will add tremendously to the cost of doing business, and require huge additions to the already topheavy burden of government employes. Thus the cost of it will react upon employes by a reduction in their standard of living.

"Specifically, the act is unsound in that it imposed a federal tax to cover unemployment, a tax which applies to employes who are eligible to any benefits under state laws. This means that thousands of employes will help to accumulate a fund out of which they can never receive any payments. Again, the federal government returns to the states only nine-tenths of the tax paid by employers within the state to the general fund. Why should the federal government withhold 10 per cent of these payments without rendering any service? However, the most dangerous provision is that permitting the accumulation of reserves well in excess of the 10 billions arrived at as the safe maximum by the experts and advisory committee."

New Bulk Terminals

SAN ANTONIO, Tex., Feb. 17.—Two major oil companies are planning the construction of bulk stations at the new deep-water port of Brownsville near the mouth of the Rio Grande River, Southwest Texas. Texas Co. will let contracts for the erection of storage and loading facilities at an estimated cost of $75,000. Adjacent to the Texas Co. bulk plant, Magnolia Petroleum Co. proposes the construction of a similar one.

The deep-water port at Brownsville, now nearing completion, comprises the second outlet to ocean shipping given the lower Rio Grande Valley within a year. The new port at Port Isabel was completed several months ago.



A. S. RITCHIE
Chairman

V. D. BENNETT
First vice chairman

G. A. HOLLOWAY
Second vice chairman

H. A. GLOVER
Secretary

Water Disposal and Other Problems Discussed at A. P. I. Convention

By L. G. E. BIGNELL

Arrangements have been made to accommodate between 600 and 800 guests at the tenth annual meeting of the Mid-Continent District, meeting of the American Petroleum Institute Production Division at Wichita, Kans., February 20 and 21. The headquarters for this meeting will be in the Allis Hotel and the program to be presented will start on Thursday morning at 10 o'clock with an address of welcome by Ralph J. Pryor, vice president, Slick, Pryor & Lockhart, Inc. C. A. Daniels, of the Phillips Petroleum Co., Wichita, Kans., will preside over the technical session to follow during which two papers are to be presented.

J. S. Montgomery, Phillips Petroleum Co., Bartlesville, Okla., will discuss "Individual Pumping Unit and Its Engine Power," and N. M. Hutchinson, Empire Oil & Refining Co., Oil Hill, Kans., will give a paper on "Gas Repressuring in Eastern Kansas."

The Thursday afternoon session is to have for presiding officer Max Mahaffey, Empire Oil & Refining Co. The first paper will be presented by R. C. Mitchell, State Board of Health, Topeka, Kans., on "Conservation of Fresh Water," to be followed by a paper by Marvin Lee, technical advisor, State Corporation Commission, Wichita, on "Underground Disposal of Salt Water." The second paper on the afternoon program is to be presented jointly by L. C. Morgan, consulting geologist, and Boris V. Lerke, consulting micro-paleontologist, both of Wichita, on "Potential Petroleum Reserves in Western Kansas."

Second Day's Sessions

One feature of this meeting will be the papers on disposal of salt water produced along with the oil in many Kansas fields. This is a problem of much interest to the oil industry because if this fluid can be disposed of without pollution of streams or domestic water wells many damage suits will be avoided. Investigation shows the oil industry has been unjustly accused in many instances of causing damage when the facts of the case clearly showed the damage resulted from causes beyond the control of the oil field workers. Kansas has passed laws to aid the oil men in getting rid of the salt water produced and the two papers on this subject mentioned above add much to the general discussion of this important subject.

On Friday morning, February 21, A. S. Ritchie, McPherson Drilling Co., McPherson, Kans., will preside and a joint paper by H. D. Collins, Gulf Oil Co., Gypsy Division, Tulsa, and J. F. Eaton, Jarecki Manufacturing Co., Tulsa, will be read by Mr. Collins. The title is "Dynamometer Tests Indicate Present Pumping Methods Subject Sucker Rods to Unnecessary Loads." The second paper is by J. A. Niles, Stanolind Oil & Gas Co., and W. C. Dreyer, Westinghouse Electric & Manufacturing Co., Tulsa, on "Prime Movers for Drilling in the Mid-Continent."

The final session on Friday afternoon will be presided over by C. O. Rison, Indian Territory Illuminating Oil Co., Oklahoma City, Okla., and L. W. Strom, Schlumberger Well Surveying Corp., will discuss "General Principles Underlying Electrical Logging," and will be followed by F. A. Lichtenheld, Indian Territory Illuminating Oil Co., Oklahoma City, with a paper on "Present Production Methods—Oklahoma City Field."

For entertainment the program committee has arranged for a dinner and party at the factory of the Allsteel Products Co. on Thursday evening, and a banquet in the ballroom of the Allis Hotel for Friday evening.

Field Trips

Weather permitting, it is planned to make several field trips and one airplane flight from a Wichita airport to the Russell County fields. The details of these fields trips will be worked out after the convention starts.

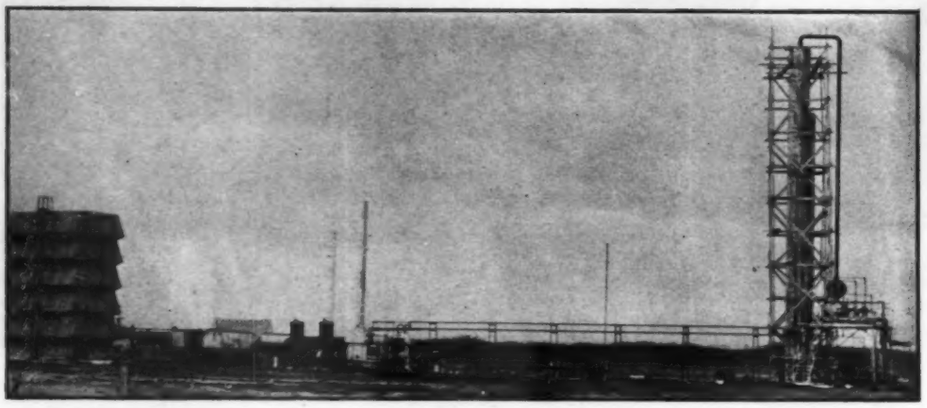
The Mid-Continent district officers are C. A. Daniels, Phillips Petroleum Co., chairman; T. J. Hamilton, Phillips Petroleum Co., vice chairman; M. W. Birmingham, Indian Territory Illuminating Oil Co., Oklahoma City, vice chairman, and G. A. Holloway, Lee C. Moore & Co., Wichita, secretary-treasurer.

The convention committees are made up of men in various parts of the Mid-Continent district with Wichita men acting as chairmen. G. A. Holloway, Wichita, is chairman of the program committee: H. W. Cardwell, Allsteel Products Manufacturing Co., Wichita, chairman publicity committee; Ed Swearer, independent operator, Wichita, chairman entertainment committee; Harry Glover, Derby Oil Co., Wichita, chairman registration committee; George Hoisington, Halliburton Oil Well Cementing Co., Wichita, chairman transportation committee, and Van D. Bennett, Derby Oil Co., Wichita, chairman of special committee of papers and discussions.

NOTICE!

Next week, February 27, we publish the MODERN PUMPING EQUIPMENT ISSUE! 236 pages in size, it contains blueprints, installation photographs, complete specifications, important pumping articles. Follows the same general style as the Rotary Drilling Equipment Issue, and is a worthy companion to it. Be sure to get your copy!

Refinery Projects



Construction picture of Wood-Moore's 2,000-bbl. skimming plant being built at Port Lavaca

Plan Erection of Reformation Plant in Michigan Field

Petroleum Chemicals Co., of Detroit, which has obtained exclusive American rights on a new refining process called the "ozonide" process last week announced preliminary plans to erect a reformation plant in central Michigan oil field. Exact site for the new plant has not yet been determined, it was said by George Henry Flynn, of Detroit, an independent oil producer in Michigan and an executive of the new concern. The process has been developed and patented by Dr. Alexander S. Ramage, of Detroit.

It is claimed 1,000 bbls. of Michigan crude processed under the new method will yield 405 bbls. of ethylene dichloride, 114 bbls. of isopropyl and butyle alcohols and sufficient other gases to provide fuel for the plant. This would compare, it is said, with 220 bbls. of gasoline, 190 bbls. of kerosene, 100 bbls. of gas oil and 470 bbls. of graded fuel oils obtained from Michigan crude through ordinary skimming plant methods.

Midway to Begin Operation of New Pettus Refinery Unit

Operations were expected to begin on the new unit added to the Pettus, Tex., plant of the Midway Refining Co. this week. The new unit comprises a furnace, flash tower and bubble tower with capacity of 1,000 bbls. per day. At present, the unit is being used for skimming, but plans call for experimental runs on cracking in the near future.

A 20 per cent gas oil cut of the Pettus crude will be used for the cracking stock. Temperatures of 900 to 1,000 degrees will be maintained. Pettus crude yields about 50 per cent of straightrun gasoline, and by cracking the gas oil cut, operators hope to obtain a 75 per cent yield of cracked gasoline totaling about 65 per cent gasoline yield from the crude.

In addition to the new unit, additional storage is being erected at the plant, and a new cooling tower has been installed.

Premier Plant Additions

The Premier Refining Co., operating a plant at Longview, Tex., will build a 1,000,000-cubic-foot vapor rectification type of recovery unit and an 800-bbl. pressure distillate stabilizing unit, construction to start at once. The work is expected to be completed by March 1 and is to be handled by Petroleum Engineering, Inc., associated with the Arthur G. McKee Co. as a turn-key job.

Rodessa Building Progressing

RODESSA, La., Feb. 17.—Rodessa is fast becoming a refining and natural gasoline center as well as a producing center. Six refining and natural gasoline plants have located here and work is under way in all of them. The Griswold refinery is now nearing completion and work is under way on the Panama refinery, just south of the Griswold plant. Pelican Oil & Gasoline Co. is now erecting a plant north of Rodessa, while the East Texas Refining Co. is clearing ground for a gasoline plant in the south side. In addition there are many manufacturing plants featuring oil well specialties and most all of the oil equipment concerns have stores in Rodessa.

Today there are 71 producing oil wells in the field, all of them having been completed since July, 1935. The field as it is now outlined is approximately 9 miles long and 3 miles wide.

Texas Remodeling Asphalt Plant

The Texas Co. is remodeling its asphalt plant at Marcus Hook, Pa. A new pipe still unit is being installed. The operations of the Marcus Hook refinery are devoted exclusively to the manufacture of asphalt. The plant has a capacity of 2,500 bbls. daily.

Red Deer Refinery Project

RED DEER, Alberta, Feb. 15.—G. E. Neilson of the Star Refining Co., of Montana, is planning the erection here of a $20,000 refinery to supply central Alberta. The plant will operate on Cut Bank crude.

New Michigan Cracking Plant

A new Michigan cracking plant designed to produce a "motor spirit" of high octane rating was expected to be placed in operation this week in Detroit by the American Petro-Chemical Co. The plant will operate with a process developed by Henry Clay Wade and previously tested in similar plants at Eldred, Pa., and Signal Hill, Calif.

Natural Gasoline

Conversion of Sasakwa Plant Is Nearing Completion

The Empire Oil & Refining Co.'s Sasakwa plant, formerly Sinclair No. 17, for the past several months has been undergoing major changes, some of which are not yet completed. An enlarged capacity gas gathering system has been extended to the Wilcox area of the Fish field, and similar extensions have been made in the old Sasakwa field where plugging back operations and new wells have resulted in a substantial increase in natural gas production.

This plant was originally a compression type plant, but due to the increase in gas volumes available, and to obtain increased capacity and efficiency, Empire is converting the plant to a low pressure (30 pounds gas pressure) absorption type.

In addition, a small proportion of the residue natural gas available at this plant is measured to a separate operation for conversion into an intermediate, crude chemical material which contains, in water solution, formaldehyde and other related substances in complex mixture. General facilities, such as water supply, boiler plant, electric generators, shipping equipment, plant site and employe houses, in addition to a reasonably dependable supply of natural gas influenced the choice of the Sasakwa location for this particular operation. Also, in conjunction with the gasoline plant, the Empire is operating an extensive water system which has furnished water to most of the drilling wells in the area, as well as for normal lease operations.

Construction work now in progress includes the installation of a standard Tulsa Type distillation unit and absorber with necessary auxiliary, pumping, cooling and condensing units to extract the gasoline at low pressure.

New British-American Plant

CALGARY, Alberta, Feb. 15.—Foundations have been completed for the new gasoline absorption plant of the British-American Oil Co. in South Turner Valley and erection of the actual plant will commence as soon as the weather moderates. It is located in the extreme south end of the field, east of Union-Freehold No. 1, the southernmost producer, and will have a capacity of 60,000,000 feet a day. Two plants are now operated by the Royalite Oil Co. with aggregate capacity around 165,000,000 feet a day and one by Gas & Oil Products, Ltd., with capacity about 60,000,000 feet. The completion of the new British-American Oil Co. plant will insure practically complete naphtha recovery from all the Turner Valley gas production. The plant will cost about $250,000 and will be in readiness for operation early in May.

Formaldehyde Plant Completed

HOLDENVILLE, Okla., Feb. 17.—The Empire Refining Co. has completed reconditioning work on its natural gasoline and formaldehyde plant near here, the project having been under way since last August and costing approximately $75,000. The 13-unit plant, which is more than two years old, formerly belonged to the Sinclair Oil & Gas Refining Co. and is said to be the second largest gasoline and only formaldehyde plant in the state. Loading racks have been constructed on the Frisco Railroad at Bernard Switch. The plant has three major intake sources from which it can obtain gas for the production of gasoline and by-products; these sources being the west Holdenville, Fish and Knight fields.

Plant Nearing Completion

One of the first casinghead gasoline plants to be erected in the North Central Texas or Wichita Falls district in a long time is now nearing completion in section 119, A.T.N.C. Survey in the Chalk Hill pool in Archer County. The Deep Oil Development Co., which owns several producers in this pool, several of which are producing from the Canyon or deep lime, is erecting the plant, which will have a daily capacity of 3,000,000 feet of gas per day. It is equipped with five compressor units, one 90 horsepower engine, three 75 horsepower and one 37½ horsepower motors. The gasoline content of the gas from wells in this field is about 5 gallons per 1,000 feet, the field having a daily estimated capacity of 700,000 feet. The casinghead gas manufactured in the plant will be sold to local refineries for blending, the residue gas to be returned to wells in the pool for repressuring.

Pipe Line Activity

Oil, Gas and Gasoline Line Contracts Are Awarded

Eastern Texas Petroleum Co. has awarded a contract to ditch, weld and lay 55 miles of 8-inch oil pipe line between Longview, Tex., and Rodessa, La., to the Apex Construction Co. of Houston, Tex. This line is to be oxyacetylene welded and the work is to be started immediately.

A contract has also been let to the White Deere Construction Co. to lay about 40 miles of gathering and main line ranging in sizes from 2½ to 24-inch diameter in the Hobbs field for the Phillips Petroleum Co. Large size pipe will be laid from the field while the smaller sizes, 2, 3, 4, 6, 8, 10 and 12-inch lines will be strung through the Hobbs pool as gathering lines.

In addition, the Phillips Petroleum Co. has let to the same contractor a contract for about 13 miles of small gasoline pipe line. About 33 miles of these two systems will be oxyacetylene welded and it is understood the work is to be started soon.

Rodessa Line Delayed

The Magnolia Pipe Line Co., which recently announced plans for a pipe line to Rodessa, connecting with its Beaumont-El Dorado trunk line at Dixie, may be delayed in starting, as it first must take up an 8-inch line in West Texas, which it plans to use. It will be approximately 25 miles long.

Proposed Wyoming Pipe Line Important Connecting Link

DENVER, Colo., Feb. 17. — The Illinois Pipe Line Co. has filed application with the Wyoming Public Utilities Commmission for a permit to build an oil pipe line from Lusk to Fort Laramie, Wyo. The project is in the formative stage and no date has been set for actual construction to begin. Preliminary surveys for the line have been started.

The tentative route for the line gives credence to reports of larger plans which have been current for some time. The Stanolind Pipe Line Co., which acquired the old Sinclair pipe line from Teapot dome to Freeman, Mo., several years ago, gave notice to the North Central Gas Co. that it desired to take over on May 31, 1936, about 163 miles of this line which had been leased to the gas company for its trunk line to Bridgeport, Neb. The gas company, in order to release this portion of the old oil line, built a new one which is nearing completion.

While no official statement has been issued in regard to the Stanolind line, it has been generally understood that it is to be reconditioned and put into operation to transport oil in storage from the Clayton tank farm in Converse County, to the Mid-Continent and Chicago areas. Approximately 12,000,000 bbls. of crude have been in storage at Clayton for a number of years, most of which is government royalty oil purchased by the Sinclair and Standard of Indiana companies. Shipments are expected to be made at the rate of 20,000 bbls. a day.

Last year the Lance Creek oil field in Niobrara County was proven for wells running up to as high as 4,000 bbls. a day initial production in the lower Sundance formation. This oil averages 43.6 gravity. The crude in storage at Clayton is said to have shown considerable loss from evaporation although recent tests indicated that these losses were not as great as might be expected. Lance Creek is at present served by a 25-mile 6-inch line of the Illinois Pipe Line Co. to Lusk and a 15-mile line to Manville recently completed by the Continental Oil Co. The projected oil line from Lusk to Fort Laramie would connect at the last-named point with the Stanolind line to Freeman, Mo.

The building of a link from Lusk to Fort Laramie to connect up the two pipe lines point to the carrying out of a project to mix Lance Creek crude with the storage oil at Clayton to "sweeten" it and thereby serve a double purpose. It will not only facilitate the movement of the storage oil and give a wider market for Lance Creek crude, but will relieve the owners of the storage crude of high taxes imposed by Converse County authorities.

The Ohio Oil Co., with which the Illinois Pipe Line Co. is affiliated, has better than 1,100 acres in the Sundance area in Lance Creek. The Continental Oil Co. has 600 acres and the Argo Oil Co. has 720 acres. Eleven wells were completed in the lower Sundance the past year and it is expected that about 20 wells will be drilled this year. The Continental Oil Co. is moving 2,000 bbls. a day from the field to its refineries at Glenrock and Denver, of which it is taking 200 bbls. from the Argo wells. The Ohio company has considerable production which is pinched in.

Fort Laramie is approximately 40 miles due south of Lusk, the southern terminal of the Illinois company's 25-mile line from Lance Creek. It is on the Chicago & Northwestern Railroad and also taps at that point the trunk line to the east. Sandard of Indiana refineries which can be served by the line are at Neodesha, Kans., Sugar Creek, Mo., and Whiting, Ind. Preliminary plans call for an 8-inch line from Lusk to Fort Laramie, with a booster station south of Lusk.

Hugoton Gas Line

DODGE CITY, Kans., Feb. 17.—Construction of the 100-mile gas line from Hugoton to Mullinville will begin within a few weeks, officials of Northern Natural Gas Co. announce. A. O. Smith Corp. will supply $1,000,000 of electrically welded 20-inch pipe.

It is reported another line is in prospect if the gas field developed near Satanta holds up.

Progress on Tepetate Lines

Work on the new crude oil and gas lines being laid from Tepetate field in Louisiana to deep-water terminal near Lake Charles, La., by Continental Oil Co., is progressing satisfactorily. The 6-inch welded oil line will have a capacity of about 9,000 bbls. daily. One diesel powered pump station will be located in the oil field and will furnish the power to deliver the oil to the terminal.

An 8-inch gas line is being laid in the same trench with the crude oil line and this will supply gas to the Mathieson Alkali Works near Lake Charles.

A new terminal will include loading docks, an 80,000-bbl. storage tank and a diesel powered centrifugal loading pump having a capacity of 10,000 bbls. an hour.

The route of both pipe lines will be from a point approximately 1½ miles southwest of Redlich in Acadia Parish, following a route southwest across Bayou Nezpique and Jefferson Davis Parish, passing less than a mile south of Fenton. After crossing Bayou Arsene, the right of way leads into Calcasieu Parish, passing through the southern outskirts of Marion, then crosses the Calcasieu River and ends at West Lake on the northwestern shore of Lake Charles.

About 100 men are now employed on this project by the Apex Construction Co. and H. C. Price, Inc., contractors for the ditching, handling and laying of the pipe, and welding, respectively.

Shell Pipe Line Corp. 10-inch pipe strung for line from Hendricks field, Winkler County, Tex., to its 8-inch system in Lea County, New Mexico

Natural Gas

Gas Company Head Protests Variety of Regulation

AUSTIN, Tex., Feb. 17.—The burden of regulation on the natural gas company serving the homes of Wichita Falls was described in district court by Chester L. May of Dallas, vice president of the Community Natural Gas Co. This regulation comes from various sources and at times amounts to "regulation by intimidation," he said.

The Community Natural Gas Co. is attacking an order of the Railroad Commission reducing the company's rates in Wichita Falls from 67½ cents per 1,000 feet to 61 cents. The company and its rates are regulated by the commission, by the city council, by competition with other fuel services, by competition with another gas company, and now, Mr. May said, attempts are being made to intimidate it by threats of municipal ownership.

The witness dwelt at length on the effect of competition with the United Gas Co., granted a franchise to serve industrial customers in 1926. This company serves only the industries and a number of other customers which were at one time commercial accounts. Since it does no domestic business it is not under regulation.

The Community company has retained about $20,000 worth of business this year in the business district and is struggling to keep this. Now Mr. May said, the city seeks a PWA loan to build a municipal plant.

"We are regulated by the Railroad Commission, the city council, competition of electricity, oil, coal and wood, and now by intimidation," he asserted on cross-examination. "If the rates were fair in 1923 when we had all the business, then the same rate cannot be sufficient now when we have lost the industrial business."

Demand for Carbon Black Up; Stabilization Is Expected

The year 1935 is believed to have brought such increases in the demand for carbon black as to have established a record for the United Carbon Co. in both production and sales. The inventory position of the carbon black industry as a whole is characterized in the trade as the soundest in years, with shipments exceeding production last year and causing withdrawals from stocks, which are understood to be at the lowest level in some five or six years. Carbon black productive capacity of United Carbon was increased through the acquisition of additional facilities early in 1935.

In the natural gas branch of its activities, sales of United Carbon expanded with the generally increased industrial activity. Recent cold weather indicates the company's natural gas deliveries are at a very high level. In Texas, which is the leading state in the production of carbon black from natural gas, the new gas conservation law adopted last year is expected to make for greater price stability in carbon black in the future.

Canadian Gas Production

OTTAWA, Ontario, Feb. 15.—Natural gas production from all Canadian fields in November totaled 2,045,595,000 feet against 1,666,501,000 feet in October and 2,055,488,000 feet in November, 1934. For the 11 months of 1935 the total was 19,309,441,000 feet compared with 20,613,067,000 feet in the same period of 1934.

Bureau of Mines Explanation on Crude Stock Reports

WASHINGTON, D. C., Feb. 17.—John W. Finch, director of the Bureau of Mines, has issued the following statement regarding crude-oil stocks.

In Weekly Report No. 98 dated September 5, 1935, the Bureau stated that its crude-oil storage figures covered net stocks rather than gross stocks. However, current discussion as to the need for a crude-oil stock survey has disclosed that considerable confusion still exists and that a further statement is necessary.

As indicated on page 1 of this report, there are approximately 313,000,000 bbls. of crude oil stored in the United States. As far as the Bureau is able to ascertain, this is net, refinable crude. It does not include heavy crude stored in California (reported as fuel oil) or any material amounts of bottom sediment and water stored anywhere in the United States. Total gross stocks of crude oil (incompletely reported to the bureau) are estimated at 343,000,000 bbls., but, as stated above, the 30,000,000 bbls. of b.s. and water is not included in any of the bureau's published statistics.

A combined economic and technical survey of crude-oil stocks is needed primarily to establish a program, which, when used in connection with the bureau's forecasts, will give an equitable distribution of demand as between current production and withdrawals from stocks.

Incidentally, trade reports stating that the bureau has obtained an appropriation of $35,000 for such a survey are both erroneous and premature.

Stocks of domestic and foreign crude petroleum at the close of the week ending February 1 totaled 312,857,000 bbls., according to the Bureau of Mines, a decrease of 382,000 bbls., comprising decreases of 80,000 and 302,000 bbls. in stocks of domestic and foreign crude, respectively.

Crude runs to stills increased, the daily average of about 2,825,000 bbls. being approximately 15,000 bbls. above the previous week. Preliminary estimates indicate that both imports and exports of crude oil declined during the week.

STOCKS OF CRUDE PETROLEUM, JANUARY 25 AND FEBRUARY 1, 1936

(Barrels of 42 gallons)

Grade of crude oil—	January 25	February 1
Pennsylvania Grade	4,134,000	4,067,000
Other Appalachian	779,000	746,000
Lima-NE Indiana-Michigan	1,178,000	1,218,000
Illinois-SW Indiana	11,028,000	11,006,000
N. Louisiana and Arkansas	9,357,000	9,426,000
W. Texas and SE New Mexico	29,298,000	29,014,000
East Texas	19,222,000	19,619,000
Other Mid-Continent	130,453,000	129,594,000
Gulf Coast	25,458,000	25,315,000
Rocky Mountain	26,750,000	26,778,000
California	35,640,000	36,284,000
Foreign	3,642,000	3,340,000
Total reported weekly	296,939,000	296,407,000
Est. of unreported stocks	16,300,000	16,450,000
Total stocks	313,239,000	312,857,000

Institute Statistical Committee Issues Up-to-Date Report

NEW YORK, Feb. 17.—The board of directors of the American Petroleum Institute at its quarterly meeting Thursday received from the Institute's Committee on Supply and Demand a report on the industry's statistical position, bringing to date the quarterly report of the committee made late in January. The report placed domestic demand for motor fuel in 1935 at 6 per cent greater than for 1934, and estimated the January demand as about 10 per cent greater than that of January, 1935. January exports of motor fuel were estimated at 3,100,000 bbls., compared with 3,243,000 bbls. in December.

Stocks of finished and unfinished gasoline were reported at approximately 5,700,000 bbls. higher on February 1 than on the corresponding date of 1935. Only the East Coast district was said to have less in storage than a year ago. January runs to stills were estimated at 2,770,000 bbls. daily. It was indicated that for the industry to have not more than 66,000,000 bbls. in storage March 31, it will be necessary to reduce runs to 2,550,000 bbls. daily average during February and March. Weather conditions have delayed shipments and inventories may be reduced when channels of transportation again are open.

It was explained that the present condition of gasoline inventories may be directly traceable to relatively low levels of distillate and residual fuel stocks, and the consequent desire of the industry to increase production of these products through increased runs to stills.

OBITUARY

WILLIAM S. MOWRIS, 68, chairman of the board of Venezuelan Oil Corp. and director of the foreign operations of Consolidated Oil Corp., died in New York City, February 12. He was a native

W. S. MOWRIS

of Warren, Pa., growing up around leases his father operated. Becoming a driller and later a contractor, he followed the play through West Virginia, Ohio, Indiana and Illinois, and to Kansas about 1900, and early in 1903 he came to Bartlesville, Okla., as an assistant manager for Theo. N. Barnsdall. Upon the death of his wife, he moved to Tulsa and was associated with Harry F. Sinclair and Earle W. Sinclair. Mr. Mowris was active in the early development at Glenpool. He was associated with Victor Martin, now of Winfield, Kans., in the Vicmar Oil Co., which owned and developed one of the valuable leases on the east side of Glenpool.

HAROLD MASSEY, president of the Massey Oil & Gas Co. of Amherstburg, Ontario, died at Windsor on February 9, aged 47.

C. B. REYNOLDS, of Hagerstown, Ind., former operator in Indiana and Kentucky, died in San Antonio, Tex., following an emergency operation.

R. G. ROLAND, 48, of Ardmore, Okla., died in a hospital at Texarkana, Ark., February 14, of injuries received when his automobile plunged off the north end of a viaduct.

MRS. CARNES, wife of Bob Carnes, representative of Union Wire Rope Corp. in East Texas, with headquarters at Kilgore, died on February 8 in Kilgore and was buried at San Angelo on February 11.

MORELL LAW, for many years the Pacific Coast representative of the Barnsdall Refining Corp., passed away at his home in Los Angeles, Calif., Saturday, February 15. Mr. Law was a brother of the late Robert Law, chairman of the board of the Barnsdall corporation.

Oil and Gas Men at Meeting on Welding at Lubbock, Tex.

LUBBOCK, Tex., Feb. 17.—The Second Annual Welding Conference was held at Texas Technological College here on February 13 and 14. About 250 oil and gas men, students and others attended the two-day meeting at which several papers were presented, exhibits made and welding demonstrations given by several welding equipment manufacturers and supply houses. The department of mechanical engineering of the college, headed by Prof. J. C. Hardgrave, conducted the meeting. The lectures were given in the auditorium of the Engineering Building, the demonstrations being given in the mechanical engineering shops.

The purpose of these conferences, which will in the future be held every other year, is to bring together all persons interested in the latest development and possibilities of welding. Welding problems will be brought to the conference for study and solution and each paper presented was discussed and questions asked in regard to welding and its principles and uses.

Dr. Bradford Knapp, president of the Texas Technological College, gave the address of welcome on Thursday morning, at which session F. C. Hutchinson of the Linde Air Products Co. gave a paper on "Multiple-Flame Welding," and L. C. Monroe of the Welding Engineer, Chicago, talked on "Economy and Quality in Welding Through Personal Training."

At the afternoon session on the first day, "Fusion Welding as Practiced on Santa Fe Railroads" was described by H. H. Service, general boiler inspector of that company. Robert Notvest of the J. D. Adams Co., Indianapolis, Ind., gave an extensive paper on "Arc Welding as a Fabrication Tool," and R. W. Van Kirk of the General Electric Co. discussed "General Welding Applications." A talking picture on the "Manufacture and Fabrication of Enduro Stainless Steel" was of exceptional interest.

During the second day of the meeting "Some Recent Developments in Low Temperature Brazing" was given in a paper written by A. W. Swift of Handy & Harman Co., New York, but delivered by Robert Notvest. Don Llewellyn, of the Air Reduction Sales Corp., gave an interesting paper on "Hard-Surfacing." This was no doubt the most closely followed paper on the program due to the fact that it applied to both arc and gas welding and is used by practically everyone having anything to do with welding or the welding business. The paper interested the small blacksmiths in the audience as well as the oil company employes.

A motion picture, "Illustrating the Arc," was furnished by the Chicago Steel & Wire Co.

C. K. Rickel, president of the Big Three Welding Equipment Co., Fort Worth, addressed the assemblage on the "Welding of Farm Implements," furnishing examples of repaired plow and cultivator shovels and shares by welding and hard-surfacing.

H. H. Bassett of the Linde Air Products Co. presented a paper on the "Identification of Metals to be Welded."

On Friday evening a dinner was given which closed the two-day session.

East Texas to Construct Line

East Texas Refining Co. of Dallas, which owns a large complete refinery at Longview, Tex., and has its own marketing outlets in the East Texas district, has made survey and is purchasing right of way for an 8-inch welded pipe line from the Rodessa field in northwest Louisiana and northeast Texas to Longview to connect with its refinery. The line will be a welded one and is to be in operation within six weeks. The company is also contemplating the erection of a casinghead gasoline plant in the Rodessa field, but details for same have not yet been completely arranged, and it is not known just when construction is to start on this project.

The East Texas Refining Co. is the largest independently owned refining and marketing company operating in the East Texas field and district, and is headed by Freeman W. Burford of Dallas, where headquarters are maintained in the Tower Petroleum Building.

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Oil News from Foreign Lands

England Steadily Declines as Outlet for America

The Dutch West Indies, Iran, United States, Mexico, Rumania and U.S.S.R., in the order named, furnished the bulk of the refinery products consumed in the United Kingdom in 1935, according to an official government report covering the year's operations. In the less important crude oil end, Iraq, Mexico, Iran, Peru and Venezuela accounted for approximately 90 per cent of the imports.

Compared to 1934 the data on imports into the United Kingdom in 1935 show several changes as to products but there were no outstanding changes in the position of importing countries with the exception of Iraq. The first imports of crude oil from Iraq arrived at refineries in the United Kingdom the latter part of 1934 and there were steady shipments throughout 1935 so that for the entire year these imports exceeded those of any other country and accounted for more than 25 per cent of the crude run to stills. The following table shows the imports of crude oil into the United Kingdom in 1935 (data in barrels):

UNITED KINGDOM

	Year	Daily average
Iraq	4,124,657	11,300
Mexico	2,556,747	6,988
Iran	2,540,428	6,960
Peru	2,021,885	5,539
Venezuela	1,122,256	3,074
Others	1,988,255	5,075
Total	14,248,228	39,036

The new crude supplies from Iraq shut off the former crude market outlets of other countries. The decrease in crude imports from Iran was the most important decline but imports from all the other important oil countries supplying the United Kingdom also decreased in 1935 in order to make room for the Iraq crude oil. It is said that crude oil imports from the latter country will increase further in 1936.

In regard to gasoline, fuel oil, gas oil, kerosene and lubricating oils the imports into the United Kingdom were as follows (barrels):

	Year	Daily average
Netherlands West Indies	23,709,257	64,957
Iran	12,740,828	34,906
United States	8,106,628	22,209
Mexico	5,341,400	14,634
Rumania	4,363,000	11,953
U.S.S.R.	2,282,657	6,253
Others	23,700,752	64,933
Total	80,244,522	219,848

This table shows that 70 per cent of these most important refinery products consumed in the United Kingdom are supplied by the six countries with two Shell and one Standard of New Jersey refineries in the Netherlands West Indies accounting for 30 per cent of the total. The three plants apparently look to the United Kingdom as an outlet for approximately 25 per cent of their total output. In the case of Iran, the United Kingdom is the most important market for crude oil refined at the Abadan, Iran refinery of the Anglo-Iranian Oil Co., Ltd. This refinery refines the bulk of the crude oil produced in Iran amounting at this time to approximately 150,000 bbls. daily.

The United Kingdom is steadily decreasing in importance as an export outlet for the United States. A few years ago the latter country was the most important single factor in furnishing petroleum supplies for that European market. The position of Mexico has varied from year to year but its imports in 1935 exceeded those of the previous year. Rumania and the U.S.S.R. have lost part of their former outlets in the United Kingdom over the past two years.

The strong position of the Netherlands West Indies as an importer is almost entirely due to its shipments of gasoline and fuel oil into the United Kingdom. In the case of gasoline, the three refineries previously mentioned supplied more than 40 per cent of the year's total in 1935 and almost 50 per cent of the fuel oil. The bulk of the fuel oil goes to the British merchant marine and its navy. The Standard of New Jersey and the Shell interests are two of the three most important distributors of gasoline in the United Kingdom, the other being the Anglo-Iranian Oil Co., Ltd. The Shell and Standard companies each have refineries in the United Kingdom but look to their Dutch West Indies refineries to furnish a large part of the gasoline required for domestic distribution.

In the case of gasoline, Iran ranks second as a supplier in the United Kingdom, followed by the United States, Trinidad, Mexico and Rumania. Iran is also second in the case of fuel oil followed by Mexico, Trinidad, United States and Rumania.

Iran in 1935 had first place in the matter of kerosene imports taking the place formerly held by United States which dropped to fourth place. Rumania was second and Mexico third. The loss of this important export outlet in the United States was one of the most important changes of the year, the decline in 1935 compared to 1934 amounting to almost 80 per cent.

Ten Belgian Refineries Have 11,000 Barrels Capacity

Belgium has 10 refineries with a yearly crude oil capacity of 568,000 tons or approximately 11,000 bbls. daily, according to a report of Journal Des Petroles. All of the plants listed confine their operations to crude oil skimming with the exception of the Belgian Cracking Co., which has a 1,000-bbl. Dubbs cracking unit and Belo-Petroleum Co. with a 1,000-bbl. Jenkins unit. The Raffineries Belge des Petroles S.A. also has facilities for the manufacture of asphalt. The report lists the following refineries and their capacities (metric tons):

BELGIUM

Company and plant locations—	Yearly capacity
Belgian Cracking Co., Ghent-Langerbrugge	20,000
Belo-Petroleum Co., Ghent-Terdonck	80,000
International Storage Co. (Belgian Shell Co.) (two plants), Ghent-Wondelghem and Anderlecht-Brussels	150,000
"Redeventza" S.A. belge pour le Raffinage de Petroles, Antwerp-Kiel	120,000
Raffinerie Belge des Petroles S.A., Antwerp-Docks No. 281-283	120,000
"Atlas Co." (American Petroleum Co.), Antwerp-Kiel	50,000
"Radian" Raffineries & Distilleries Anversoises S.A., Antwerp-Kiel	25,000
Arthur Miesse, Neder-over Hembeek-Brussels	2,000
Distillerie & Raffinerie d'Huiles, Machelen	1,000

French Imports of Crude Oil Reduce Refined Imports

France in 1935 greatly increased her imports of crude oil and this accounts for an increase in total imports despite a decline in imports of refinery products. Her exports of refinery products increased with her total consumption of petroleum products about the same.

The foregoing summarizes the data furnished this publication by the Office National des Combustibles Liquides of the French government covering imports, consumption and exports for 1935 with comparisons for 1934. The report states that out of 6,766,370 tons of oil imported, France herself consumed 4,086,659 tons which compares with 4,042,967 tons for the year before. The consumption in France by products for the two years follows (tons):

FRANCE

Products—	1935	1934
Touring gasoline	1,710,922	2,010,524
Other gasolines	511,104	327,342
White spirit	10,815	5,363
Kerosene	164,096	150,730
Lubricating oil	229,832	244,840
Gas oil	243,064	370,672
Fuel oil	943,714	676,505
Road oils and soft products	240,794	224,931
Petroleum coke and hard products	26,214	28,581
Paraffin wax	4,104	3,539

The report points out that the consumption of touring gasoline decreased 15 per cent in 1935 with a decline of 6 per cent in lubricating oils. It is said that the increase in the use of alcohol as blending material largely offsets the decline in touring gasoline so that the total consumption of motor fuels in 1935 was 34,389,000 hectoliters which compares with 34,575,000 hectoliters in 1934. In 1935 the report shows 3,950,000 hectoliters of alcohol were used in blends compared with 2,550,000 hectoliters in 1934.

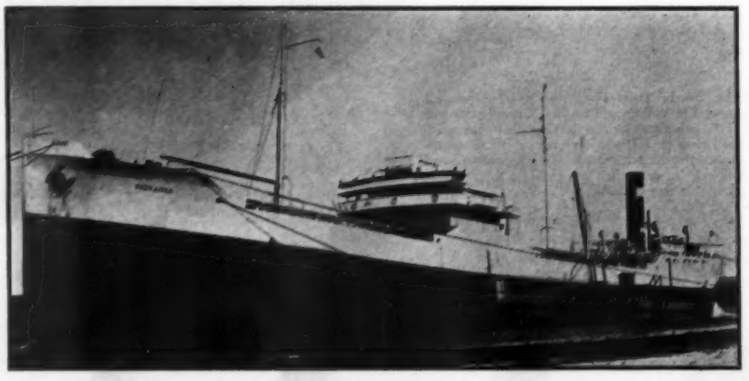
Including supplies taken by foreign ships but excluding reexportations, French petroleum exports in 1935 totaled 539,388 tons which compares with 486,985 tons in 1934. The exports for the two years were as follows (tons):

Products—	1935	1934
Crude oil	3,741	5,945
Gasoline	75,670	6,882
Kerosene	32,764	16,463
Lubricating oils and other heavy oils	72,089	111,326
Gas oil	70,359	60,192
Fuel oil	234,278	234,680
Road oil, etc.	47,547	48,411
Coke, etc.	1,450	1,735
Wax	1,490	1,348

The imports of crude oil and refinery products into France for 1935 and 1934 were as follows (tons):

Products—	1935	1934
Crude oil	5,621,612	4,321,849
Touring gasoline	461,934	940,989
Other gasolines	108,297	113,945
Kerosene	9,430	38,328
Lubricating oils and other heavy oils	105,422	154,631
Vaseline and other paraffin oils	652	1,116
Gas oil	117,816	253,956
Fuel oil	293,649	264,162
Road oil, etc.	24,261	52,361
Coke, etc.	22,598	19,000
Paraffin wax	698	1,625

The most important situation revealed in these import figures is the increase in crude oil imports which in 1935 averaged approximately 115,000 bbls. daily in American barrels. French refining facilities under government sponsorship over a period of five years increased from practically nothing to the point where they now furnish about 85 per cent of the French domestic and export requirements. This expansion in crude imports has of course been accompanied by a corresponding decline in imports of finished products. It is assumed that this trend in the French operations will be continued through 1936.



Italian oil tanker loading in Corpus Christi, Tex., harbor

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MEMBER, AUDIT BUREAU OF CIRCULATIONS

Where Is the Oil?

Oil men today are concerned about two questions. One is immediate, avoiding a top-heavy accumulation of motor fuel by the first of April that would impose a handicap at the start of the season.

The prolongation of the exceptionally severe weather has postponed the hope that renewed movement and consumption, stimulated by better weather, would reduce backed-up gasoline quickly. Curtailment of plant operations, in some cases even shutdowns, have been deemed necessary to maintain the balance, and not to repeat the mistake of the past.

This problem, however, is temporary, with promise of satisfactory solution. The other question, which is increasingly engaging the thought of executives and those concerned with the production of oil, is a question about the future that demands present attention.

Where is the oil that will be needed in two years?

Granted that for the time being we could supply any conceivable demand, in doing so, without equivalent new discoveries, we would be depleting our reserves. We have not been discovering as much oil as we have been using.

The pools discovered in the past five years, with few exceptions, were small in area, and even Conroe, Fitts, the new Michigan pools, the Louisiana discoveries and other 1931-35 discoveries are not to be compared with the succession of big fields opened in the period beginning with Mexia in December, 1921, to the end of 1926, during which Mexia, Haynesville, Huntington Beach, Tonkawa, Burbank, Santa Fe Springs, Long Beach, Powell, Smackover, Wortham, Spindletop deep sand and Hutchinson County, followed one another.

Consumption is again making new records, increasing the drain on our reserves without adequate replenishment from new fields or new sands. Management charged with the responsibility of assuring continuing supplies of raw material and producers dependent upon ability to maintain output are looking anxiously beyond the present and seeking far and near for new sources, not for today, but for tomorrow.

No other East Texas has been found. Rodessa, which may rival it in length of structure, is another story. The circumstances are altogether different. First, because of the cost of drilling; second, because most of it is in possession of experienced companies who will assure orderly development, and third, because, as in lime fields generally, of the dissipation of the gas.

These considerations remove fear of Rodessa as a disturbing influence, unless, indeed, in the bare possibility of extension into Texas and a resulting controversy between the states on proration. But Rodessa is not the answer to the need for more oil.

That this is the opinion of oil men is evidenced by the unceasing effort being made to find new production which is seen in every direction. Particularly noticeable is the number of deep tests being put down in new and older fields. This redoubled effort to find oil, even at greater cost, illustrates the recognized need.

It is but ordinary prudence. The industry cannot continue indefinitely to draw upon its capital—the reserves. It must supplement what it has with a continuing income—yearly discoveries, if it remains in business supplying customers with an unfailing store.

The need was indicated by the crude price advance. It was not a mere rectification or reward. It was dictated solely by supply and demand, as all such changes are. It was the signal that more oil was required to keep the industry going on a sound basis.

It was one answer to the question where are we to get the oil for tomorrow, reflected in the present activity among operators which promises to make 1936 the best in 10 years. Not since 1926 has the situation and the outlook in the oil industry been so good.

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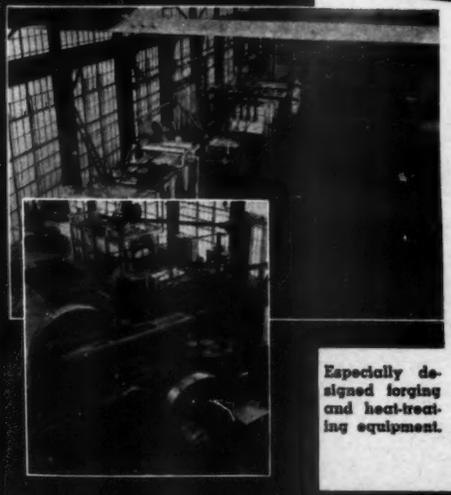

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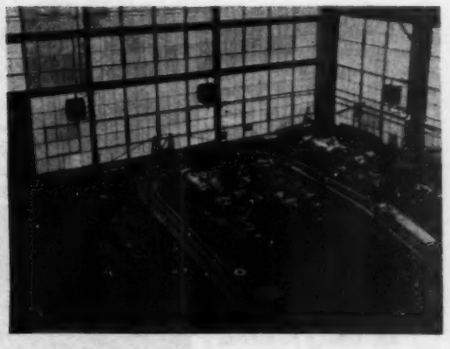

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Gas Solvent Process Used as Solution of Petroleum Oil Problem in Poland

By MARJAN GODLEWICZ
Research Laboratory, Polmin Drohobycz, Poland

The idea of using selective solvents for the production of lubricating oils was first applied in Poland by Professor Kling of the Warsaw Politechnic who in 1920 filed[1] with the Bureau of Patents, a method of precipitating asphalt by means of hydrocarbons boiling below room temperature.

Early Experiments

In 1932 the idea of utilizing the properties of light hydrocarbons in the production of oils from asphalt residues was taken up again by Professor Pilat in the laboratory for petroleum technology in Lwow, Poland. The starting point of this study originated in the above mentioned patent of Professor Kling. In the first experiments, the results obtained in the precipitation of asphalt by the technical use of propane appeared unsatisfactory, as a large amount of the color substances still remained in the oil.

Tests were then made in the use of natural gas under pressure, as a reagent, for the purpose of precipitating the rest of the asphaltenes from the propane solution and here, an entirely new phenomen became apparent viz. that the methane in the propane solution not only has the power of precipitating the rest of the color substances, but also precipitates the lubricating oils in a fractionating manner.[2] Attention was immediately drawn to the fact that different fractions are precipitated at different pressures, e.g., color substances being precipitated at a pressure of 40 to 50 atm., and pure oil hydrocarbons at above 50 atm. Thus, the dosage of dissolved methane, regulated by the amount of pressure causes the precipitation of the singular fractions, which are individually extracted.

By varying the quantity of dissolved methane in liquid propane used in the selective solvent treatment of lubricating stocks the authors, early in their experimental work, were able to make a close separation of the various fractions involved.

As this problem apart from purely scientific values presented also technical advantages, further investigations on this matter were transferred in 1933 to the "Polmin" refinery where in a specially constructed laboratory scientific, as well as technical investigations connected therewith have been carried out.

The apparatus for laboratorial investigations consists of pressure bottles obtained from bottles used for the preservation of gases under pressure. In one of these bottles, the process of diluting the residue by means of propane takes place and the asphalt is extracted in the usual way, since its consistency is sufficiently liquified to allow its release by opening of the lower gauge; the color substances are precipitated in the same bottle, under a pressure of 40 atm. obtained by pressing in of natural gas. Following the separation of resin in a similar way as described for asphalt, the clean solution is pumped into another pressure bottle where the lubricating oils are fractionated by further pressing in of the natural gas under a pressure of 150 atm.

General view of specially constructed laboratory for gas solvents process in "Polmin" Panstwowa Falryka Olejow Mineralnych Drohobycz, Poland

It appeared in the course of these investigations that different petroleum products can be refractionated in the same way, e.g., crude oil, residue, topped asphalt, oil distillates, oils treated with selective reagents, etc., the pressure of saturation necessary for the precipitation of the singular fractions being regulated in accordance with the product treated. For example, in treating with the help of gas under pressure crude petroleum, still containing a great deal of low boiling hydrocarbons, which seem greatly to impede the precipitating process of lubricating oils, it is necessary to use pressure above 80 atm. for the extractions of the lubricating oils, while in treating petroleum residue, similar fractions can be precipitated above 40 atm.

Technical propane, as a solvent and the dry gas of Daszawa are used for the formation of the second phase of hydrocarbons.

Other Gases

It has been also stated that other gases besides methane have similar precipitating properties, e.g. hydrogen and nitrogen; however, the precipitating power of these gases is smaller than that of methane, for a much higher saturation pressure must be used in order to obtain the precipitating effect exhibited by the use of methane.

In the gas process, referred to above asphalt, resinous substances and a number of lubricating oil, fractions of various properties can be obtained depending on the interval of pressure under which the oil has been precipitated.

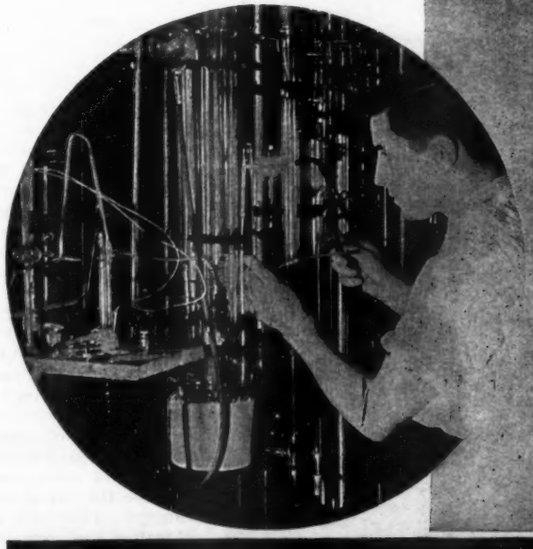
Special studies have been accomplished for characterizing the gas solvent process during distillation in comparison with the cold fractionation process. On the basis of the present state of investigations carried out on Urycz residue, it has been stated that if Pipestill's distillation gives automobile oils of a viscosity index 14 and cylinder oil of index 19, an identical residue, treated by cold fractionation should without difficulty give oils of an index, about 70 and suitably low specific gravity.

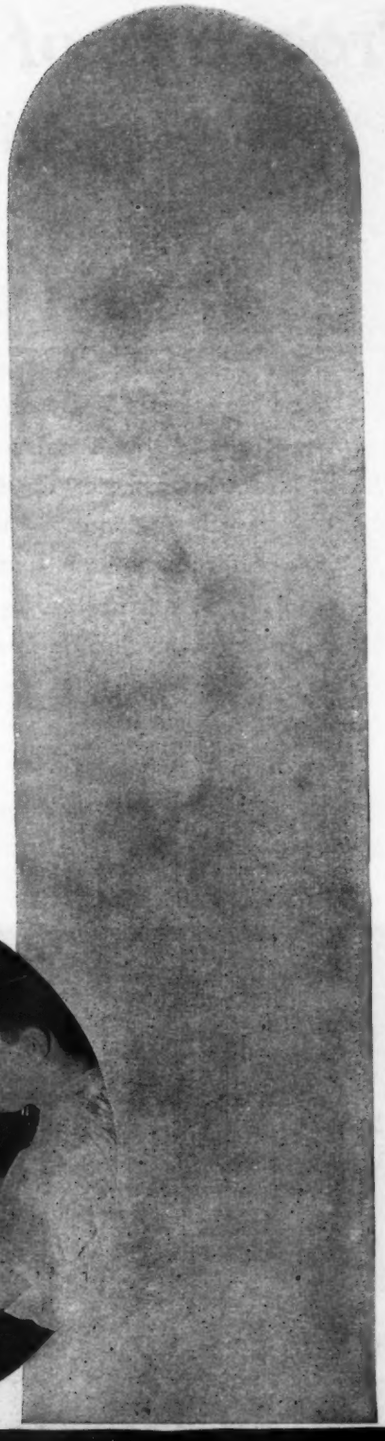
The typical Polish asphalt-base, wax-free, crude oil, like Urycz, Harklowa, Potok and Kroscienke have been investigated and it has been noted that all of these crude oils, treated by means of cold fractionation exhibit similar behavior and give oils of great resistance to oxidation whereas by means of distillation, high-grade oils cannot be obtained from these crudes, even by means of selective solvents.

However investigations were not only confined to Polish crude oils and several experiments performed on foreign crude petroleum of a typical naphthenic-base character showed, that Rumanian petroleum from Gura Ocnitei, and petroleum from Venezuela and Colombia fail to give oil of a high viscosity index and suitably low constant gravity. In other words, the behavior of this foreign petroleum during the cold fractionating process does not deviate from Polish petroleum and the oils were found to have entirely similar properties.

[1] Polish patent 1629; German patent 362,458.
[2] Polish patent 20,607.

In a commercial thermal polymerization unit now in operation the charging stock has varied from 100 per cent gaseous fractions from refining cracking plants to 100 per cent gases with source from natural gas.





● The ability to utilize such a wide range of charging stocks will prove of great value to many refiners. The building of such units, however, calls for a thorough knowledge of petroleum refinery technology.

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Oil and Gas Industries Benefit From Testing Program of Laboratories

By HARRY W. SMITH, JR.
A. G. A. Testing Laboratory

In the utility business, where service to the public is the life blood, trade associations have acted to the betterment of conditions to remarkable degrees. In such industries cooperative effort and impartial collective action in the public's interest are essential—more so perhaps than in industries serving more specific markets and catering to smaller groups of customers. In the gas industry particularly, the national trade body, the American Gas Association, has been of outstanding value to its constituents. One example is its testing laboratories established in Cleveland, Ohio, and Los Angeles, Calif., through which it has undertaken new activities of a unique nature and developed them to the point of enormous betterment of the gas industry.

To exemplify what the A.G.A. testing laboratories have meant to the gas industry in general, let us view the contributions that have been made by that institution to the natural gas industry.

First of all, it is the primary function of the laboratories to test for approval all types of gas-burning equipment. This they do by carefully examining every part of each submitted gas appliance or gas appliance accessory and determining its compliance in every detail with exhaustive American standards of minimum acceptable construction and performance for gas-burning equipment. Efficiency, safety, substantiality, convenience and design tests are applied. In the case of gas ranges alone some 529 different tests and observations are made upon the parts and assemblies of each model. The consumer's interest is paramount in all such testing, although the manufacturer's, the dealer's and the utility's points of view are weighed heavily. It is the primary purpose of the testing work to assure completely satisfactory design and performance of all gas utilization equipment from every standpoint. This activity, had it no other effect, would be highly beneficial to the gas industry for the reason that through it no gas-using equipment is permitted to reach the public which might in any way lay the industry open to charges of inadequacy or antiquity.

But of course the laboratories' testing serves more and greater ends. For example, the testing program is so extensive that the manufacturing trends of the entire appliance industry may be influenced thereby. Ninety-three per cent of all domestic gas appliances sold today in the United States and Canada are A.G.A. approved upon the basis of the laboratories' tests. In 1934, approved products represented a sale of over 1,580,000 units. Under such circumstances, a requirement or standard placed by the laboratories upon some small feature of appliance performance may have tremendous effect. It has been estimated that over $6,000,000 has been expended by the gas industry in appliance improvement as a direct result of the testing and approval program. The public is familiar with gas only through the appliances in which that fuel is burned. Any betterment of appliances is quickly reflected in the general health of the industry. It is an indisputable fact that much of the decided improvement of gas appliances that has occurred in the past 10 years is due to the laboratories efforts.

To the natural gas industry in particular, recent developments in the laboratories' testing policies are encouraging. One domestic use of natural gas of great significance to the natural gas industry is, of course, house heating. In addition to the large volume of laboratories' testing of furnaces, floor furnaces, boilers, gas-steam radiators, circulators, radiant heaters and other home-heating devices (400 to 500 new models of such units are approved annually), new activities have recently been undertaken in the domain of gas conversion burners for water heating and central heating gas appliances. During the past year such units were listed for the first time in the association's directory of approved gas appliances and listed accessories. Now 40 models are certified.

Laboratories of American Gas Association through their testing program have materially benefited the oil and gas industries by establishing tentative requirements for pipe joints and by testing all gas burning equipment.

As for the standards upon the basis of which appliance or accessory serviceability is gauged, they are comprehensive, reasonable and universally accepted as the finest practical consumer goods standards that exist. They stipulate that tests be conducted at various gas pressures with both natural and manufactured gases which represent the extremes of service conditions found throughout the country. To the natural gas industry this aspect of the approval and listing testing is of great importance, for the gamuts of natural gas heating values, specific gravities and pressures over the country (taking into account mixed gases containing natural gas) are very large. Due to the strict requirements for appliance approval enforced in the laboratories' program, however, modern-day gas appliances may be satisfactorily and effectively used in all natural gas territories.

Natural gas and oil company interests are represented upon the committees of the association which frame the test methods and approval standards developed in connection with the American Standards Association for the laboratories' use. Since consumers, dealers and home economics experts the country over look upon the laboratory seal of approval as a guide in appliance purchasing, it is small wonder that this oil and natural gas representation means so much to oil and natural gas enterprises.

Even in the field of gas distribution the laboratories have been of great service. Since 1929 they have conducted extensive researches upon joint-making methods for cast iron and steel pipe. These have culminated quite recently in the formulation of requirements for mechanical joints for cast iron pipe and for bell joint clamps, which standards should be of material benefit to the industry.

In industrial gas utilization and gas production also, their investigations have been outstanding. A large market for natural gas is formed by those cities and localities which serve consumers with mixed supplies partially constituted of natural gases. A five and one-half years' study by gas research experts at the Cleveland laboratory has provided the industry's most complete file of information on the art of gas mixing. Some six major research projects in the domain of industrial gas utilization have been completed in the past five years.

The laboratories serve as the central testing and research agency of the American gas industry. Their services to date have contributed much to the advancement of the gas industry. They have a staff of highly trained and experienced engineers, the best and most modern testing and research equipment available in the gas field, and their facilities are available for any natural gas problems that the industry may have to present for investigation. There are many problems connected with the production, distribution and utilization of natural gas, the solution of which would unquestionably be of immense benefit to the entire natural gas industry. It is in the solving of such problems, through properly directed research, that the laboratories can be of further usefulness to the natural gas interests.

Testing apparatus for establishing tentative requirements for bell joint clamps and for cast iron pipe. Laboratories research data on joint making methods and their services in the field of gas utilization have proved invaluable to gas and pipe line companies

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Modern Refining Requires Extensive Use of Alloy Steels for Equipment

By H. D. NEWELL
Chief Metallurgist, The Babcock & Wilcox Tube Co.

Continued development in oil refinery processes such as cracking, reforming, stabilizing, hydrogenation, and, more recently, in the dehydrogenation and polymerization of refinery and natural gases, to produce high antiknock gasoline and chemicals, has led to the wide use of

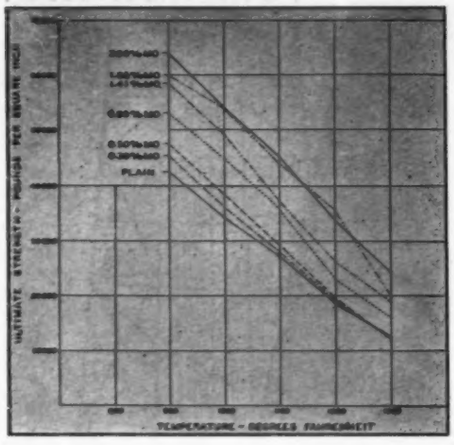

Fig. 2—Short-time strength tests made on steel test bars containing different quantities of molybdenum at varying temperatures

alloy steel tubes in cracking furnaces and other parts of refinery equipment. Perhaps the widest application has been in 5 per cent chromium, .50 per cent molybdenum steel tubes for the milder conditions of temperature, pressure and corrosion with 18-8 alloy for the most severe conditions. Large tonnages of these materials have been used over the past five years or more.

Recognizing a need for an intermediate alloy steel between 18-8 and 5 per cent chromium steel in so far as oxidation resistance, corrosion resistance and creep strength were concerned, our company undertook an extended survey of alloys which might fill this need and still be appropriately priced. Briefly, the requirements of a satisfactory alloy for high temperature service may be outlined as follows:

1. It must have good corrosion and oxidation resistance up to the maximum service temperature for which it is designed.

2. Its creep strength shall be satisfactory.

3. The alloy shall be structurally stable under long-time heating within the service range and be free from embrittlement on cooling.

4. It shall be suitable for tubing manufacture and have satisfactory forming and working properties.

With the foregoing requirements in mind and with the objective of supplying a material suitable for service temperatures up to about 1,250° F., a chromium content of 9 per cent was selected. This is nearly double that contained in 5 per cent chromium steel and is exactly one-half of the chromium content of 18-8. Such amount was deemed adequate to provide the desired resistance to corrosion and oxidation. Improvement of high temperature strength properties was then attempted by the addition of metallic carbide forming elements such as molybdenum, vanadium and tungsten. A series of induction furnace melts were made to determine the individual and collective effects of these elements. Carbon, manganese, silicon and chromium were held as nearly constant as possible to the following limits: Carbon, .15 per cent maximum; manganese, .50 per cent maximum; silicon, .50 per cent maximum; chromium, 8 to 10 per cent. Analyses of the experimental melts are given in Table 1.

The melts were made in magnesite crucibles, deoxidized with manganese and silicon and poured into small ingots (60 pounds) with hot-tops. Ingots were reheated and forged to 1 inch round for test purposes.

The bars from each heat were annealed together, the furnace cooling from 1,600° F. to 1,000° F. at a rate of 25° F. per hour to provide a common basis for evaluating the effects of variation in analysis. The room temperature physical properties of each steel, as annealed, are given in Table 2.

TABLE 1—CHEMICAL ANALYSES OF TEST STEELS

SERIES 600

Heat—	C	Mn	Si	Cr	Mo	V	W
604	.14	.54	.10	8.35	.57	..	..
605	.17	.47	.05	8.40	..	.21	..
606	.12	.45	.12	8.64	..	..	1.00
607	.13	.38	.07	8.72	.53	.26	..
608	.13	.42	.13	8.95	.59	.23	1.04
609	.08	.42	.17	9.10	..	.25	.97
610	.07	.42	.20	8.69	.55	..	.96
611	.11	.46	.12	8.33	..	..	..

SERIES 800

Heat—	C	Mn	Si	Cr	Mo
800	.12	.49	.17	8.94	..
801	.11	.45	.09	9.32	.30
802	.09	.38	.17	9.28	.50
803	.10	.38	.12	9.54	.98
804	.12	.38	.09	9.42	1.41
805	.10	.36	.16	9.58	1.85
806	.10	.36	.19	9.58	2.95

The benefits derived from the carbide forming addition elements were evaluated by means of the "short-time" high temperature tensile test. These tests were made in the usual manner employing .505-inch diameter times 2-inch gauge length specimens with threaded ends. The specimens were inserted into high temperature alloy grips and heated in a resistance furnace placed between the heads of a hydraulic testing machine of the Amsler type. Iron-constantan and pt — Pt Rh thermocouples attached to the specimen indicated the temperature during heating and pulling, the furnace temperature being maintained constant for each test by means of a potentiometer type controller with an additional Pt Pt Rh couple adjacent to the wall of the furnace. Testing conditions were standardized and made in accordance with A.S.T.M. tentative standard E 21-34. Pulling speed in all cases was .10 inch per minute. Although yield points were taken by stress-strain diagrams and elongation and reduction of area recorded for all specimens, the index taken for the effect of the element was the ultimate strength.

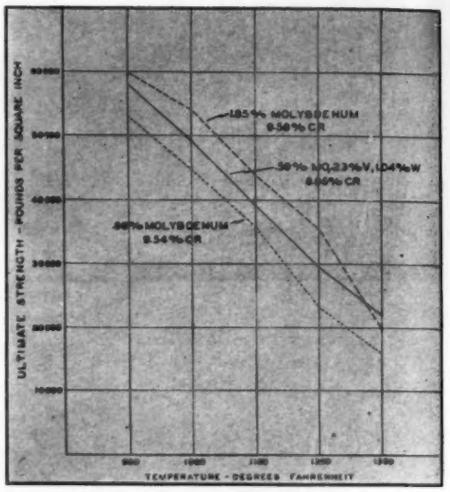

Fig. 3—Short-time test bar results when using varying percentages of molybdenum with other alloying elements

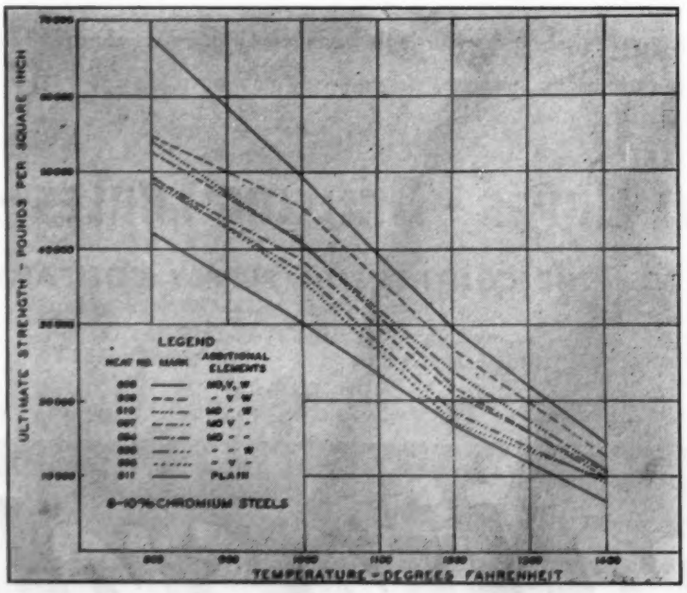

Fig. 1—Short-time strength of various alloys undergoing heat tests indicated benefits to be derived from use of molybdenum in alloy

In the past, in the regularly established alloys, such as 5 per cent chromium-molybdenum, 18-8, and carbon steel, the short-time strength test has reflected strength differences which are also apparent in creep tests. It would be obviously time-consuming and expensive to subject all the alloys in this investigation to creep tests, consequently, the short-time test was selected as a relative index of the strength properties of the group of materials under investigation. Tapsell[1] states that if testing conditions are standardized as to rates of loading and condition of

[1]Tapsell, H. J., Creep of Metals, Oxford University Press, 1931.

material, the ultimate strength will indicate the superiority of one material over another.

Figure 1 shows the short-time strength of the alloys in the 600 series heats from which it may be observed that molybdenum is the most effective single element addition and vanadium the least effective. The ratios employed in these additions were 1/2 V = 1 Mo = 2 W. (In considering cost, molybdenum is the least expensive for a given effect.) The short-time strength was improved in every case by the addition elements and a decided rise in strength was secured in the steel containing all three elements (heat No. 608).

Molybdenum, being an American mineral, is favored for the reasons that it is most effective

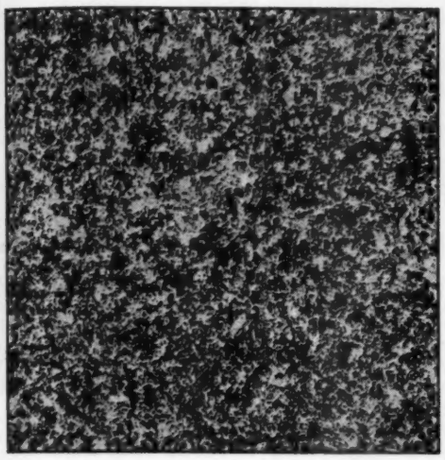

Fig. 5—Nine per cent Cr., 1.50 per cent Mo. steel after air cooling from 1,750° F. Brinell 329. Etch, copper sulfate and hydrochloric acid. X 100

in raising strength for a given cost, and, also tends to eliminate temper-embrittleness. A further series of steels containing 9 per cent chromium were tested, containing molybdenum in graduated steps (Series 800). The increase in strength obtained with increased molybdenum content is shown graphically in Figure 2, which indicates that increase in strength occurs up to 1.85 per cent molybdenum, above which the strength is but little improved. The short-time properties of the three elements, Mo, V, W, steel (heat No. 608) were duplicated or even surpassed by a suitable molybdenum addition, as shown in Figure 3.

The molybdenum series of alloys was tested for oxidation resistance at a selected temperature of 1,200° F. It was observed that molybdenum slightly depreciated the resistance to oxidation when compared to plain 8-10 per cent chromium steel. This is believed due to the volatility of molybdenum at a red heat. It does not, however, cause appreciable loss of molybdenum on heating as evidenced by the fact that a melt containing 1.43 per cent molybdenum showed 1.41 per cent molybdenum in the surface layers of the specimen after removal of the scale formed on heating 250 hours at 1,200° F.

The oxidation resistance of the 9 per cent chromium alloy as compared with other materials at 1,200° F., is shown in the graph—Figure 4. In this test, machined specimens three-quarters inch diameter by 2 inches in length were mounted on a circular ring holder and heated in an oxidizing atmosphere for the time indicated. Specimens were cooled 10 times to room temperature without scale removal during the run, whereupon the scale formed was removed and weight losses determined. Structurally, the 8-10 per cent chromium alloys are martensitic and are thus air-hardening to about the same extent as 5 per cent chromium steels. The presence of considerable molybdenum closes the gamma loop and, if the carbon content is sufficiently low with chromium and molybdenum toward the high side of the range, they become less air-hardening or may become practically alpha-delta steels. It is generally preferable to balance

TABLE 3—COMPARATIVE CREEP PROPERTIES, LBS. PER SQ. INCH

.10% — 1,000 hours — (1% — 10,000 hours)

Material—	900° F.	1,000° F.	1,100° F.	1,200° F.
5% Cr., .50% Mo	17,900	9,200	4,800	1,800
9% Cr., 1.50% Mo	33,250	11,650	6,950	2,300
18-8	24,000	18,300	11,550	5,500

.01% — 1,000 hours — (1% — 100,000 hours)

Material—	900° F.	1,000° F.	1,100° F.	1,200° F.
5% Cr., .50% Mo	15,000	7,200	2,400	900
9% Cr., 1.50% Mo	24,750	5,800	3,775	1,600
18-8	18,000	11,500	7,100	4,250

the composition so as to have a transformable alloy in order to permit heat-treatment and preserve impact properties. Figures 5 and 6 show the structure of the alloy in the air hardening state and after annealing. The annealed structure consists of ferrite and spheroidized carbides.

Creep Strength

Determination of the creep properties of certain of the annealed molybdenum steels was undertaken by Prof. F. H. Norton, using procedures previously described in Metal Progress, October, 1933. Data developed for the 9 per cent chromium, 1.50 per cent molybdenum alloy is given in Figure 7. Creep values in comparison with 5 per cent chromium-molybdenum steel and 18-8, as found by the same investigator, are shown in Table 3.

Chemical Analysis

After completion of tests and consideration of certain economic factors, the chosen chemical composition range selected was as follows:

Carbon	.15% Max.
Manganese	.60% Max.
Silicon	.60% Max.
Chromium	8.00-10.00%
Molybdenum	1.25- 1.75%

The nominal composition within this range is

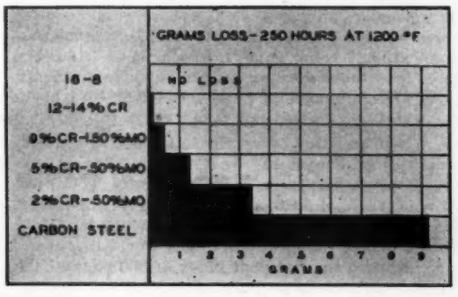

Fig. 4—Oxidation resistance at 1,200° F.

9.25 per cent chromium, 1.50 per cent molybdenum, and .12 per cent carbon and has been given the trade name "Croloy 9."

This alloy has stainless properties approaching those of 12 per cent chromium-iron alloys and for this reason may be termed "semistainless" as contrasted to the complete stain-resisting qualities of 18-8 and the nonstainless qualities of 5 per cent chromium steels. Perhaps this designation is inept from a technical standpoint but it gives a concise practical description of the new alloy. Corrosion tests to determine suitability for high-temperature, high-pressure application cannot be appropriately made in the laboratory consequently the alloy is being subjected to severe tests in the industry for which it was designed. Tubes are in service in many oil refineries throughout the country and the answer as to whether or not the alloy fills a need will be determined by the user. At the present time, some 10 commercial electric furnace

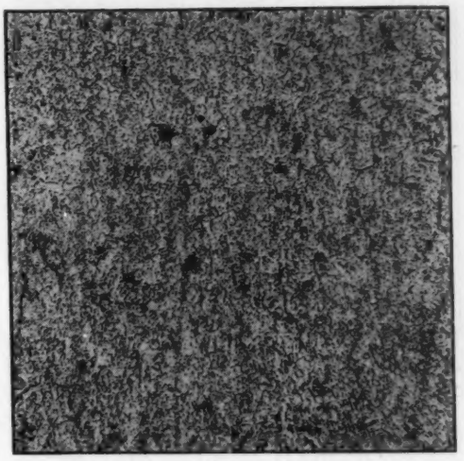

Fig. 6—Same steel annealed by furnace cooling. Brinell 158. Etch, copper sulfate and hydrochloric acid. X 100

heats have been processed into tubes with all indications that the alloy can be satisfactorily handled in rolling bars and in piercing and rolling tubes. As annealed, tubing of the alloy has good properties of ductility and may be readily expanded, formed or bent. In welding, practices must follow those acceptable for 5 per cent or higher chromium steels.

Susceptibility ration tests of impact specimens show the alloy to be free from any tendency toward embrittlement when cold with excellent ductility when hot. The material has thermal expansion characteristics slightly lower than carbon steel. Data are as follows:

Temperature range	Mean coefficient
70° F. to 300° F.	6.28×10^{-6}
70° F. to 600° F.	6.67×10^{-6}
70° F. to 900° F.	7.00×10^{-6}
70° F. to 1,000° F.	7.30×10^{-6}

Tubes of the alloy consistently meet the following minimum physical requirements:

Tensile strength, lbs. per sq. in.	75,000
Yield point, lbs. per sq. in.	30,000
Elongation, in 2 inches, per cent	30
Brinell hardness, maximum	180

From the foregoing description of this alloy it is apparent that its properties suggest suitability for semisevere elevated temperature service up to about 1,250° F. metal temperature in such applications as furnace tubes and heat exchanger tubes for oil refining and for superheater tubes in steam boilers. Other uses will undoubtedly be found where the properties of the alloy are suitable. In this connection, it may be remarked that quenching and tempering heat-treatments produce a wide variety of physical properties which may be of use to mechanical parts such as bolts and studs or for

TABLE 2—PHYSICAL PROPERTIES—8-10% CR. STEELS AT ROOM TEMPERATURE AFTER BEING ANNEALED

Heat No.	Elements—	Ultimate strength, lbs./sq. in.	Yield point, lbs./sq. in.*	Elongation, % in 2"	Reduction of area, %	Brinell	Charpy impact, ft. lb.†
	SERIES 600						
604	.57% Mo.	68,400	33,600	36.5	71.8	122	44.5
605	.21% V.	68,850	28,750	37.5	74.5	124	53.7
606	1.00% W.	69,050	28,300	37.5	75.1	126	41.0
607	.53% Mo., .26% V.	70,250	40,400	36.0	71.3	140	47.5
608	.59% Mo., .22% V., 1.04% W.	80,350	53,800	29.5	68.6	174	39.0
609	.25% V., .97% W.	77,900	47,900	35.0	70.7	174	48.0
610	.55% Mo., .95% W.	70,370	34,500	36.5	75.3	134	57.7
611		66,850	29,400	39.0	77.5	111	58.0
	SERIES 800						
800		69,300	26,025	34.0	68.7	135	58.5
801	.30% Mo.	71,000	27,800	37.5	79.1	131	...
802	.50% Mo.	71,950	27,480	37.5	76.4	137	...
803	.98% Mo.	76,800	35,230	38.5	78.8	143	‡77.5
804	1.41% Mo.	81,500	41,800	34.5	76.9	143	‡3.0
805	1.85% Mo.	85,300	51,650	27.0	78.0	148	‡55.5
806	2.95% Mo.	85,900	42,700	31.5	65.6	152	...

*By dividers set .020" over gauge length.
†Average of two tests, .394" square specimen, key-hole notch.
‡Average of four tests, .394" square specimen, key-hole notch.

other construction purposes that require materials of high shear strength at elevated temperatures.

In Figure 7 two curves are plotted from the results of creep tests on the new alloy, the tests being made at various temperatures. A study of

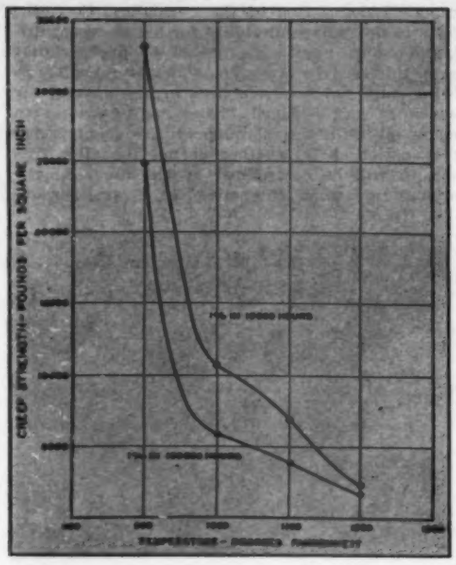

Fig. 7—Creep strength of new alloy at various temperatures in pounds per square inch

this plot shows that while 33,250 pounds per square inch were required to give a 1 per cent elongation in 10,000 hours at 900° F., only 2,300 pounds per square inch were required to produce the same per cent elongation at 1,200° F.; thus showing the great decrease in strength that accompanies the volatilization of the molybdenum. The lower curve in the plot shows the tension required to produce a 1 per cent elongation in 100,000 hours, the force required varying from 24,750 pounds at 900° to 1,600 pounds at 1,200°

Caravan Features Actual View of Gasoline Combustion

Peering into the explosion chamber of a running automobile engine, onlookers at the "parade of progress," touring the country under the auspices of the General Motors Corp., are reenacting the pioneer scene in which Charles F. Kettering and his coworkers figured when they set out to discover why engines "knock." Central features in an exhibit of the "circus of science" devoted to motor fuel is a demonstration directed by Francis C. Cronin, former Fordham University athlete, of how gasoline behaves both with and without the presence of ethyl fluid, epochal discovery of Thomas Midgley, Jr.

Nearly 25 years ago, when the automobile was changing from a luxury to a necessity, Kettering and his aides developed an engine containing a quartz window which enabled them to look in and see the difference between the combustion of gasoline under normal conditions and the combustion that caused the knock.

During normal combustion, it was noted, the flame was an orange color but when knock occurred it became white, indicating over-heating. Finally the researchers established that gasoline is to blame for the knock. Midgley then attacked the problem of making the gasoline knockless, succeeding with tetraethyl lead after a study of 33,000 chemical compounds.

Millions of people on the 20,000-mile journey of the "circus" will gaze into an engine through a quartz window to watch the electric spark ignite the gasoline fumes, and to witness the explosion which drives back the cylinder. Powered by leaded gasoline, the General Motors caravan typifies the influence of motor fuel development upon modern engine design. Lectures and motion pictures interpret fuel progress since Midgley's dramatic achievement.

Universal Files Suits Against Cities Service Company

CHICAGO, Feb. 17.—Infringement of five cracking patents is charged by Universal Oil Products Co. in two suits recently filed against the Empire Oil & Refining Co. and Crew Levick Co., each a subsidiary of Cities Service Co.

The five patents alleged to be infringed by both defendants include Nos. 1,392,629, 1,488,325, 1,551,090, 1,820,057 and 1,548,004.

The first four were issued to Carbon P. Dubbs and the other to L. C. Huff. All have been assigned to Universal Oil Products Co.

The first patent named is the so-called clean-circulation patent which was validated by the United States District Court of Appeals for the Third Circuit, certiorari having been denied by the U. S. Supreme Court.

The petition against Empire alleges that "defendant at East Chicago and elsewhere in the United States unlawfully and without license or consent of the plaintiff . . . practiced the processes and constructed and operated apparatus of said patents . . . and have thereby infringed upon the rights secured to the plaintiff . . . and has refused to cease and discontinue its infringing acts." . .

Universal's bill of complaint against the Crew Levick Co. charges that the five Universal patents were and are being infringed in the Crew Levick Petty's Island (N.J.) refinery and "elsewhere in the United States." Both petitions ask for an injunction against further infringement, an accounting of profits resulting from infringement and damages equal to three times the profits.

The suit against Empire Oil & Refining Co. was filed in the Federal District Court in Wilmington, Del., and that against Crew Levick in the Federal District Court in Philadelphia.

Carleton Ellis Outlines Field of Petroleum Resins

The research laboratories have produced by synthetic methods within a relatively short time and with very simple apparatus, resins and plastics which have a wide application of considerable commercial importance. These artificial resins are serving in the place of wood, metal and glass for a multitude of purposes. One of the best known of these substances is Bakelite, which has numerous applications; being made into telephone hand-sets, table tops, molded cases, camera parts, instruments, pipe-stems, automobile parts, electrical equipment, trays, toilet articles, and many other things.

"The Chemistry of Synthetic Resins," a remarkable two-volume work, by Carleton Ellis, covers this field with extraordinary exactness. There are 70 chapters and 1,626 pages, profusely illustrated. The extensive patent references, of which there are nearly 15,000, the citations to the world literature, together with the excellent index of 206 pages, have all been so carefully prepared that they will be of invaluable service to any investigator of the subject.

These synthetic resins are largely polymerization products of the type of hydrocarbons that are derived from petroleum, and the progress already made in perfecting methods for their preparation has been so satisfactory, it is suggested that this field is now presenting an opportunity for a commercial development which promises to surpass the wonderful results accomplished during the past 75 years with the coal tar hydrocarbons. There are three chapters describing specifically the preparation methods and the resins of the hydrocarbons of the petroleum group. Some of the recent work of several investigators has been directed to methods, largely of the polymerization class, for the preparation of synthetic rubber from petroleum; among these cited is Thomas Midgley, who, with T. A. Boyd, is credited with the discovery of Ethyl Gasoline.

A brief review cannot adequately describe this exhaustive treatise, where there are so many phases of organic chemistry discussed, including the critical study of the long molecule so abundant in petroleum, the numerous resins that are being made and the immense possibilities for polymerization even when applied only to the cracking operation. Polymerized gasoline, which has so recently attracted attention as a superior motor fuel, is one example of large scale operation.

The work is described that has been done by many men well known to the petroleum industry; complete references are given in each instance. Random glances over just a few pages shows investigations in this field have been conducted by A. E. Dunsten, J. C. Morrell, C. A. Thomas, E. W. Adams, Gustav Egloff, B. T. Brooks, H. A. Gardner, C. R. Wagner, V. N. Ipatieff, Mr. Ellis and many others are found in the extensive name index.

The contents of these books will be valued by the petroleum chemist, technologist, patent attorney and all students of synthetic methods that may be related to resins and other products of polymerization.

"The Chemistry of Synthetic Resins" may be purchased through the Book Department of The Oil and Gas Journal at the regular price of $19.50, express prepaid. A copy will be forwarded promptly upon receipt of check or money order for that sum.

Manual for Calculating Gas Volumes Now Published

A complete and thoroughly up to date manual for use in calculating natural gas volumes measured by orifice meters has been recently published by the California Natural Gasoline Association as Bulletin TS-353, and which is a revision of former C.N.G.A. Bulletin S-282. The material contained in the new manual is based on the work reported in the American Gas Association's Gas Measurement Committeee Report No. 2, and has been made available to Pacific Coast and other users through the activities of a joint committee sponsored by the California Natural Gasoline Association, the Pacific Coast Gas Association, and the Southern California Metering Association.

The first section of the bulletin contains all of the values necessary for making calculations either for flange or pipe connections. Exclusive of the tables, the report is complete with a tabulation of the standard nomenclature and constants used in metering; a tabulation of general flow equations for gases; a comparison of the old and new equations; a standard procedure for computing coefficients and charts, together with illustrative problems; and meter construction and installation specifications. The appendix contains complete information on the derivation of equations; a chart giving average K values for use in computing the value S in the Reynolds number factor equation; tables of the viscosity of gases, and the variation of the ratio of specific heats of gases and their effect upon orifice meter measurement.

Copies may be obtained at $2.50 each from the C.N.G.A. Secretary, at 510 West Sixth Street, Los Angeles, Calif.

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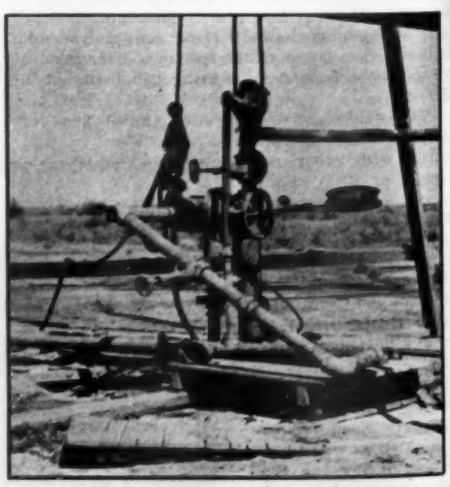

Carbon dioxide well of Pacific Imperial Dri-Ice Co., Niland, Calif.

POWER RIGS

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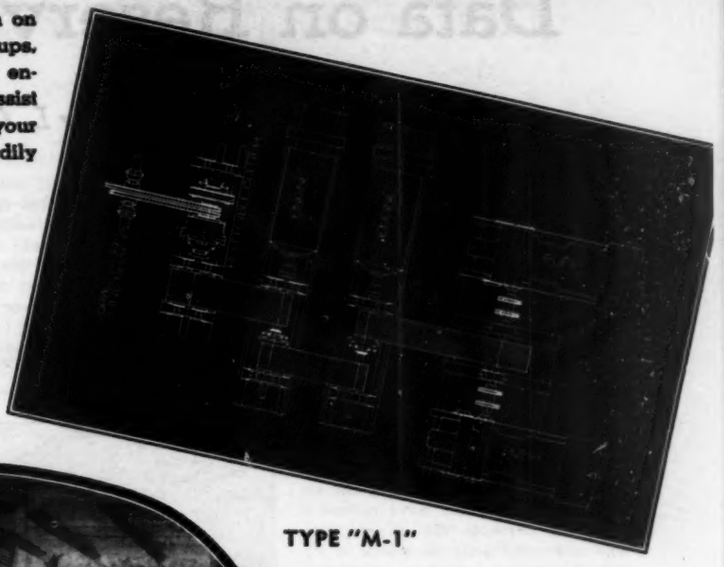

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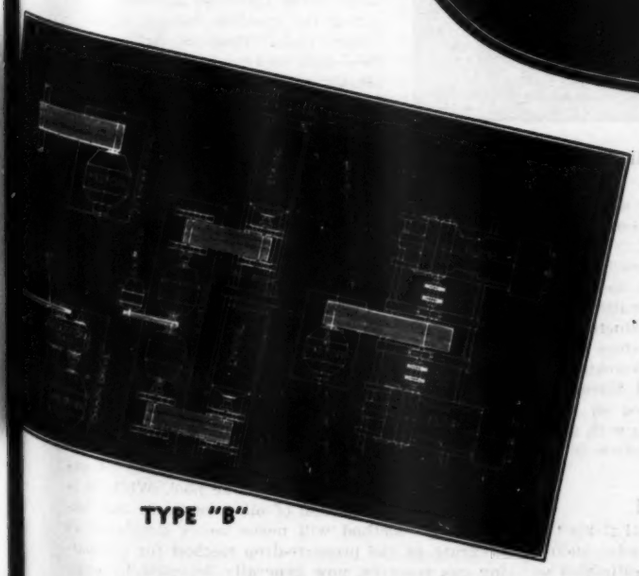

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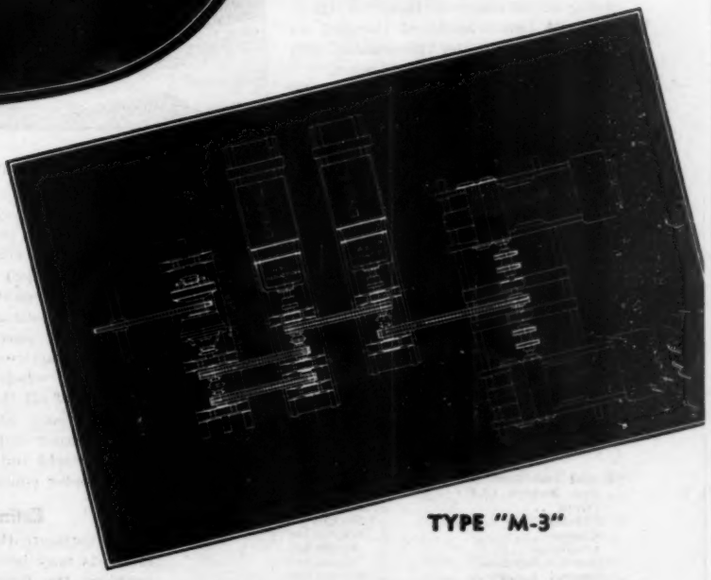

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In the designing of Lucey Power Rig Hook-Ups, we have taken into consideration the wide and varied requirements of the operator. We have complete specifications and prices, and can make prompt deliveries on straight *Mechanical* rigs through either "V" belt or Chain drive, (types M-1 and M-3); *Combination Electrical-Mechanical* rigs (EM-1); *Internal* combustion engine driven *Direct-Current Electric* rigs (B-1) and Alternating Current electric motor-driven direct-current rigs (not illustrated). All rigs are adaptable to gas-gasoline engine or diesel engine prime movers.

Lucey power rigs are designed primarily for efficiency with full consideration for practicability and economy. We have employed the use of the conventional hoist to allow the operator to utilize equipment he might already have. The drives have been made as simple and fool-proof as possible, employing principles and equipment with which the average crew is already familiar. When your operations require power equipment, consult us.

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OIL WELL SUPPLIES

TULSA, OKLAHOMA

Characteristics of Oil Reservoirs Give Data on Reserves to Be Recovered

By L. G. E. BIGNELL

Several years ago in tracing the development of geology in Oklahoma oil industry the late Dr. Sidney Powers stated: "Geologists unfortunately decided all the oil in Oklahoma should underlie surface anticlines; the supply of anticlines was rapidly giving out, hence a shortage of oil was imminent. The cry of 'Wolf, wolf' was raised all too soon. However, the estimation of petroleum reserves, both to conserve oil supplies and for taxation and valuation purposes became one of the fields into which geologists ventured. Estimation of natural reserves is a project which appeals to scientists who, in turn, are pessimists. Hence the periodical warnings of the exhaustion of oil supplies in the United States, and especially in Oklahoma have proved a source of mirth to the oil operators who are necessarily gamblers in future hopes and therefore optimists."

Much of the above statement is still true, but since Doctor Powers wrote it many new developments have been made in the science of estimating reserves and conditions have changed from open flow production to prorated fields. With this change in methods of producing gas and oil it has been necessary to depart from the older methods of projecting "decline curves" for estimating future well capacities to other means of arriving at oil reserves. However, there are still two schools of thought on this subject and the "pessimists" and "optimists" are still in evidence.

In the January bulletin of the American Association of Petroleum Geologists is published the report of "A Special Committee of the American Petroleum Institute," a committee made up of geologists, petroleum engineers, geophysicists and oil company executives which in September, 1935, undertook a survey of the American petroleum industry.

Interior of laboratory for examination of cores

Total Reserves

In this report the estimated proved petroleum reserves in known fields as of January 1, 1935, is given as follows (barrels):

California		3,500,000,000
Rocky Mountain States:		
Wyoming	250,000,000	
Montana	60,000,000	
Colorado	12,000,000	
		322,000,000
Central and Southern States:		
New Mexico (S.E.)	350,000,000	
Texas	5,500,000,000	
Oklahoma	1,200,000,000	
Kansas	400,000,000	
Arkansas	75,000,000	
North Louisiana	55,000,000	
Coastal Louisiana	320,000,000	
		7,900,000,000
Eastern States:		
Illinois	35,000,000	
Indiana	5,000,000	
Kentucky	35,000,000	
Michigan	45,000,000	
New York	40,000,000	
Ohio	30,000,000	
Pennsylvania	240,000,000	
West Virginia	25,000,000	
		455,000,000
Total United States		12,177,000,000

In the same issue of the A.A.P.G. bulletin, Dr. L. C. Snider and Dr. B. T. Brooks present another article entitled, "Probable Petroleum Shortage in the United States and Methods for Its Alleviation," giving the other side of the debate. Both articles are worthy of careful study, but to the layman the question will immediately arise as to "How are these estimates now made?"

In overall estimates of this character, and many have been made since the turn of the century, it has been the usual practice to take all available data upon past performance of fields and areas and reduce these data to come comparable yield factor and then to estimate the oil still remaining unproduced, knowing the amount of oil already extracted. Knowing area of the producing fields and something of the thickness of oil bearing formations and the percentage of the pore space filled with oil it is possible to arrive at estimates of future recoverable oil from any area.

The principal problem involved in such a study is to secure reliable fundamental data upon which to base the estimates of fields and formation thickness. In the past when open flow production was common practice it was possible to produce decline curves for whole states or regions, knowing the quantity of oil that had been produced during succeeding years and plotting the values on cross-section paper and connecting the points with a line which would indicate trend of production in the areas under consideration.

Estimating Life of Field

To estimate the life of individual oil fields two methods may be used in attempts to solve such a problem, the first consists of basing estimates on probable recoveries per acre-foot or other unit volume of reservoir which can best be applied during the early life of the field. The other method is based on the relationship of rise in oil-water contact to withdrawals made, and to movement of a possible gas cap.

In applying either of these methods it is essential that many data be available such as core studies of the producing formations which will indicate the actual thickness of the saturated section, the porosity, effective saturation and permeability. It is also necessary to know the original oil-water contact datum line, the position of the gas cap (if any) when the field was opened, the gas-oil content and the physical characteristics of the oil and gas. Gas-oil ratios and reservoir pressures should be studied and capillary retention and retention by adhesion of the oil to sand grains will give much valuable information in such a study because these data will indicate some values of energy originally available and energy left and also it is possible when such factors have been obtained to determine approximate energy required to drive the remaining oil from the reservoir into the wells.

The number and spacing of the wells in the field will have some bearing upon future recovery and it is especially desirable to know the manner in which the wells have been produced in the past, whether at high or low flow rates and the gas-oil ratios under production conditions.

Engineers have long been aware of the influence of gas dissolved in oil in changing the resulting fluid mixtures and their behavior in underground reservoirs and in recent years the U. S. Bureau of Mines has devoted much time to standardizing methods of studying these characteristics and applying them to various fields as early in the life of the wells as possible. This work has shown the possibilities of making reliable predictions of volume and recoverable oil and have also indicated to the engineers in charge of production in these fields the best methods of securing the greatest volume of oil at lowest costs. That is, by applying these data to actual well or field conditions it is possible to determine the formation pressures below which the gas will tend to come out of solution and change the viscosity of the oil.

Changing the oil's viscosity by allowing the gas to escape from the solution will effect surface tension and specific gravity of the oil and with such changes the oil becomes increasingly more difficult to move through the small pore spaces in the formation and in time is too thick to be recovered by natural flow methods.

Advances in Technique

With the advances made in the technique of studying bottom-hole samples of gas and oil it has been possible to substitute the old "production decline-curves" by "pressure-drop" curves and with this method to determine not only the oil still in the reservoirs but to estimate the quantity of gas and oil originally in place in the pool. While it is probable the estimation of oil reserves by the "energy-drop" method will never be as simple or as accurate as the pressure-drop method for estimating gas reserves, now generally accepted by engineers for determining the contents of gas fields, it is possible to combine or extend suggested methods to include an "energy-decline" curve which would be similar to the production-decline curves formerly obtained when wells flowed unrestricted.

One engineer has proposed to estimate the total volume and volumetric change of the reservoir oil by using analyses of the fluid obtained from bottom-hole samples after definite quantities of oil and gas have been produced. In addition to complete analyses of the liberated gases and residue oils, and to solubility curves, the proposed method would utilize data pertaining to oil and gas production, bottom-hole temperatures and pressures,

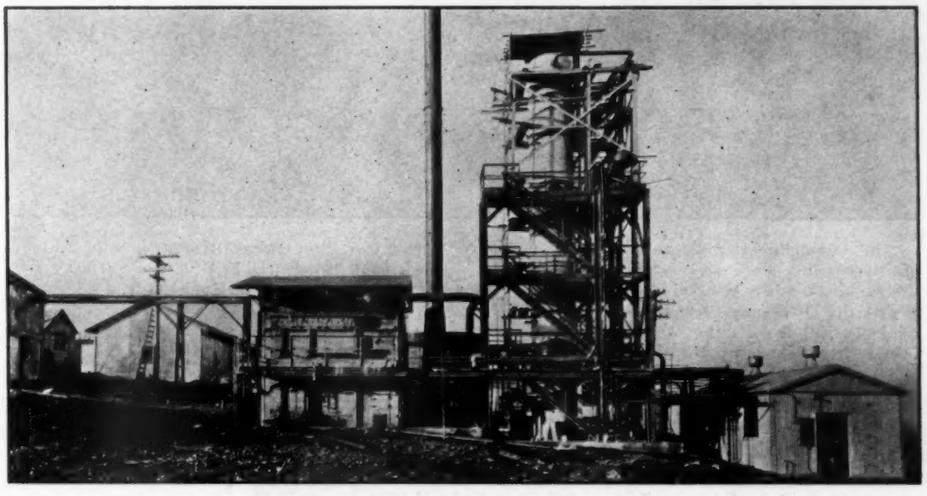
(Continued on Page 38)

Flexible Design of Canadian Refinery Permits Wide Range of Operation

The Standard Oil Co. of British Columbia, Canadian subsidiary of the Standard Oil Co. of California, now has under construction a single flash distillation unit to process 2,000 bbls. per day of 25.1° A.P.I. gravity crude from the San Joaquin Valley. The plant is located near Vancouver, British Columbia.

The distillation unit is designed to remove specification gasoline overhead, two side cuts, and a residual fuel oil. The outstanding feature of the plant is the flexibility of design which permits the production of gasoline, distillates, and residual stocks over wide range specifications.

A simplified flow sheet showing the operation of the unit is given by Figure 1. The crude charge flows through the bottoms heat exchangers which preheats the entire charge to over 300° F. This preheated charge then flows through the economizer and heating sections of the tube still to the fractionating tower.



View of the Standard Oil Co. of British Columbia crude distillation unit under construction

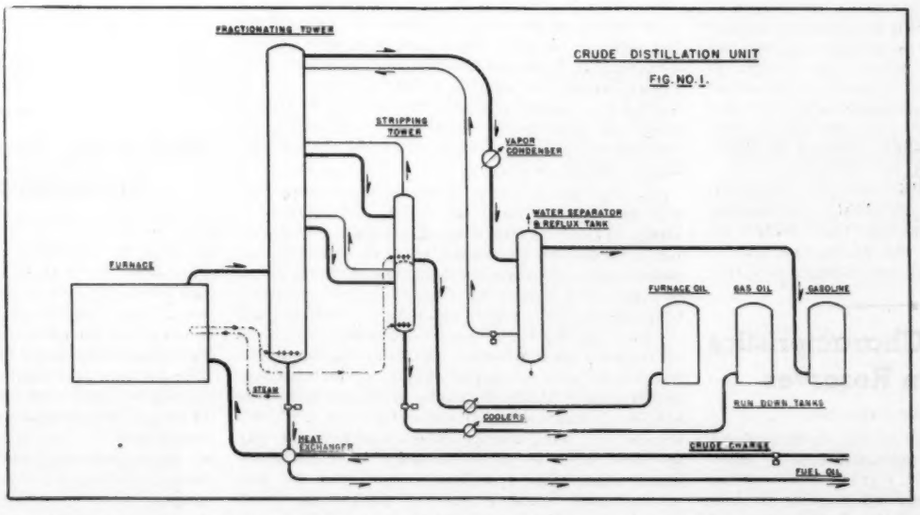
The main fractionating tower is approximately 60 feet high and is equipped with 20 Alco fractionating trays above the flash section and four trays below. The auxiliary stripping section is approximately 30 feet high and is divided into two sections, each section containing four trays.

The overhead vapors and steam flow from the top of the main tower to a vapor condenser where condensation and subcooling of the entire overhead is effected. The total condensate then flows to a water separator (where the condensed steam will be removed) and then through a sight glass to the rundown tank. A reflux pump will pump back part of the oil condensate from the rundown tank to the top tray of the fractionating tower to maintain the specified endpoint on the overhead gasoline.

The two side streams will be removed from the main fractionating tower and will flow, by gravity, to independent external stripping sections. The furnace oil side stream will flow from the stripping section, by gravity, through the final cooler and sight glass to a rundown tank. The gas oil side stream will be pumped from the stripping section through the final cooler and sight glass to the rundown tank.

The stripping sections are external and are independent of main fractionating tower operation. Rate of flow from the side streams is controlled by means of micrometer control valves located on the instrument board in the control house. With this system of regulation, side stream specifications and rate of flow can be adjusted without the operator leaving the control room.

The residual fuel oil from the tower will be pumped hot through the bottoms exchanger and from the pumping equipment will be regulated to approximately 15 pounds back pressure and will flow through a steam superheater located in the economizer section of the tube still. This superheated exhaust steam will be subsequently used in the base of the fractionating tower and in each final cooler to a receiving tank. Exhaust steam of the external stripping sections.



Simplified flow sheet of the 2,000-bbl. distillation unit being constructed near Vancouver, B. C.

The necessity of an extremely flexible design is shown by an examination of the products and yields to be made. The unit will be capable of producing an overhead gasoline having an endpoint ranging from 350° to 425° F., with yields ranging from 10 to 30 per cent of the crude charge.

The first side stream will be an overhead furnace oil which will have an endpoint ranging from 475° to 550° F. with a Pensky-Marten flash specification depending upon the field of gasoline taken overhead. The yield of furnace oil will range from 0 to 20 per cent.

The second, or gas oil side stream, is principally for operating control in order to permit the simultaneous production of a specification residual fuel oil and the overhead furnace oil. The yield of gas oil, in order to provide this control, will range from 0 to approximately 10 per cent of the crude charge. The Pensky-Marten flash will be in excess of 150° F. and the color not darker than 2 A.S.T.M.

The residual fuel oil will be produced to any required viscosity value between the limits of 250 and 800 seconds Saybolt Universal at 130° F. with Pensky - Marten flash specifications varying between 240° and 290° F. Yields of this specification fuel oil will vary between 50 and 75 per cent of the crude charge.

In addition to the flexibility of design necessary to produce the widely varying specifications of products, provision has also been made for future operation of the refinery to produce asphalt of from 200-50 penetration. This will be accomplished by flashing the fuel oil bottoms produced from the fractionating tower. To allow for this possible future operation, ample space was provided in the furnace for the installation of additional radiant tubes. In addition to this, the stack and breeching were designed to handle the total flue gas resulting from the asphalt operation.

The engineering, design, and construction are being carried out by the Montreal Locomotive Works with assistance of Alco Products, Inc., as consulting engineers. All materials entering into the construction of the plant are of Canadian manufacture, with the exception of a few specialties from the United States. The fractionating and stripping towers and the tubular exchangers, condensers, and coolers were built in accordance with the Canadian boiler codes.

The furnace is of the vertical bridgewall type with an inclined roof arch over the economizer section. The seamless steel tubes in the radiant section are arranged to absorb the maximum

amount of heat without deterioration of products in the crude. The tubes in the convection bank have been arranged to minimize the space required and the arrangement is such that maximum heat absorption will be obtained from the hot flue gases, thus resulting in a high overall thermal efficiency. Steam atomizing oil burners provide the source of heat for the furnace. Tubes were arranged on the roof and one wall of the furnace, leaving ample room for the installation of the future tubes for the asphalt operation.

The fractionating tower is equipped with steel streamline fractionating trays. Among the important features of this type of fractionating tray are the low pressure drop due to streamline construction, accessibility because of removable troughs and caps, and welded construction which eliminates leakage or channeling of reflux.

The heat exchange and cooling equipment were designed with sufficient flexibility to meet the highest demand imposed by any combination of products desired. Fresh water is used in the condensers and coolers and is circulated through these units from a cooling tower.

Instrumentation has been provided to insure practically complete automatic operation and control of the unit. Among the more important instruments are flow controller for the crude charge; temperature controller for the fractionating tower top; liquid level controllers for the fractionating tower bottom and stripping sections, and Alco micrometer side stream controllers for each side stream.

Due to the simplicity of design, the arrangement of instruments will permit production of products from the plant with no fluctuations, and will further make possible changes in product specifications upon short notice. The quality of products will have constant physical characteristics within the error of normal laboratory evaluation methods; thus making unnecessary "averaging of streams" to produce finished specification products in tanks.

In addition to the distillation unit, Montreal Locomotive Works is also supplying and erecting all materials for the yard piping. This includes all interconnecting lines from the distillation unit to the tankage, treating plants, and loading facilities.

Champlin Crew Successful in Overcoming Tubing Break

The Champlin crew shown in the accompanying photograph were successful in overcoming a tubing break when a 6,500-foot string parted in one of the Oklahoma City wells belonging to the Champlin Oil & Refining Co. The crew, reading from left to right, are: Boyd Smith, Row Sowder, Marion Cox, Ray Owens, George N. Russell (farm boss), Cecil Hardwick, E. L. Mooney (field superintendent) and Frank R. Gunn (Kibele representative.) The Kibele patented catcher shown in the foreground caught the string of tubing with no resulting damage to either the tubing or casing.

Oil Reservoir Characteristics Give Data on Reserves

(Continued from Page 36)

and the physical properties of the hydrocarbons. By calculating from these indicated data a "material balance" on the reservoir at intervals during the life of a field it is believed possible to estimate the original volume of the fluid content of the reservoir.

Other engineers have made somewhat similar approaches to this problem and if it should ever become necessary to secure accurate estimates of the total available reserve oil in all pools in this country it would be possible to do so by correlating these different formulas and then applying them to the larger fields. After securing results on these major reserves of oil it would not be difficult to study the other reserves by areas or districts and add to the larger field estimates, thus obtaining a fairly accurate figure for all reserves.

In conclusion to answer the question "How are these oil reserve estimates made?" it will require the type of estimate desired to be stated. Estimating the nation's oil reserve has usually been made by committees of geologists and engineers agreeing upon general characteristics of regions and applying known facts to arrive at some idea of future performances.

If the estimate of oil reserves held by individual companies is covered by this question it is possible for any company to now determine with a close degree of accuracy its future oil by applying the methods outlined above and if it were reasonable to expect the oil companies to disclose their individual records of this nature it would not be hard for a group of engineers and geologists to arrive at quite close estimates for regions and by totaling regional reserves to arrive at the nation's future supply of oil.

A great deal has been published concerning various methods of handling details for making a study of the characteristics of oil pools and applying such data to estimating reserves and it is now possible to apply these methods to individual leases or fields and it is being done by many companies to determine their future assets in oil underground.

So while it is possible to determine individual oil reserves the application of this knowledge to the problem of expressing the amount of oil available to supplying future demands is by no means so simple. To know whether the nation has any given number of years' supply of oil available for any specific year's requirements puts upon the problem a much more complex interpretation for this involves the "critical" rate of production which may be attained in all fields.

Regardless of the total estimated supply of oil underground it is quite obvious if enough oil to supply 1,000,000,000 bbls. per year for 12 years cannot actually be removed from the ground in less than 25 years that at some time in less than 12 years the daily supply of available oil will be far below the demand for refining requirements.

This phase of the problem is the one which needs much study for it is now obvious methods must be applied to most oil fields to increase the daily production rate of the individual wells if this country is going to continue to supply the quantity of oil needed for domestic consumption and shipments abroad to markets already established.

This same problem faces each oil company with a complete organization from production to marketing divisions. Such companies must have oil available in quantities sufficient to supply the needs of the refineries and to supply finished products for sale by the marketing division. These problems have long been recognized by the production department and it is to that end most of the efforts are now directed, and it is believed improved production methods will be applied to all fields as they have been applied to many pools in the past few years.

It is to secure data of such a character as to permit the production department to plan future rate of recovery to fit the demand that many companies have established research departments and the results of the studies of the engineers and other technical men in these departments is already evident and it now remains for the industry to accept these facts and make use of them by practical application and all indications are toward this end so by increased efficiency within the individual company organizations the nation's oil supply will be assured for a long time to come. Immediate shortage is not evident by a study of all conditions but the industry does need to increase efficiency in every department and cease treating oil pools as though the supply was unlimited because it is known it will give out some time, but if proper application of known scientific facts are applied promptly to recovery and utilization of the nation's crude oil supply the day of exhaustion of this resource will be delayed for a long time.

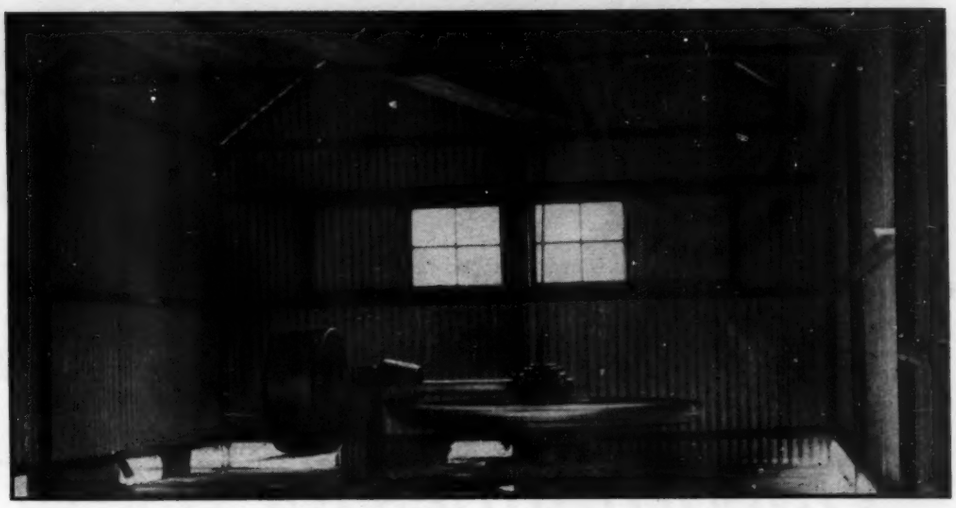
Mid-West Power Engineering Conference April 20-24

The Midwest Power Engineering Conference to be held in Chicago will begin on Monday, April 20 and continue to the 24th with a program that has been arranged from the viewpoint of the engineer. The four-day program will contain 12 sessions in which about 35 papers will be presented by authors recognized as authorities in their fields. The various participating engineering society sections have sponsored sessons and secured able men in their fields to represent the society at the power conference.

Tuesday's sessions will be devoted to such subjects as "Power Plant Buildings and Dams," "Electricity," and "Diesel Power" while the Wednesday morning sessions on "Refrigeration," "Power Piping and Welding," and "Fuels" will emphasize the importance of these topics to the power plant operator and executive. Combustion experts as well as several others will aid in further informing conference members of the value of these subjects. On Thursday, sessions on "Power Plant Technics," "Power Transmission to Machinery" and "Fuels" will cover these major features of interest to all power engineers.

OPERATING IDEAS

Utilizing Scrap Pipe as Frame for Equipment Housing

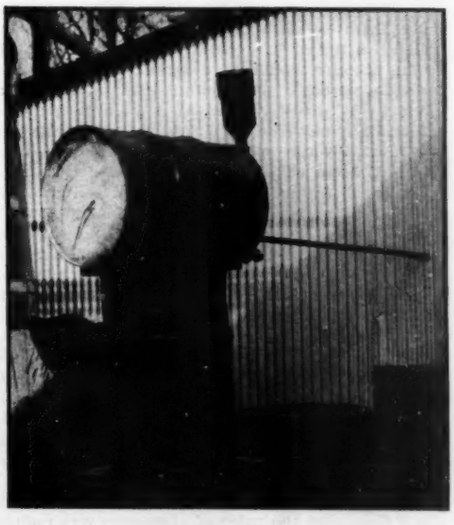


Old pipe is usually plentiful around a lease but has little sales value and therefore furnishes a cheap material for the construction of many structures needed on the property. The accompanying picture is a good illustration of what may be done with old pipe in making the frame for a building to house a geared power. The joists are made of 6-5/8-inch casing and the uprights and roof trusses formed from 2-inch. All joints are welded and the galvanized sheets are wired in place. Concrete floor has been laid and wooden frames set for windows, the only wood used in this building's construction.

Adjustable Centrifugal Pump

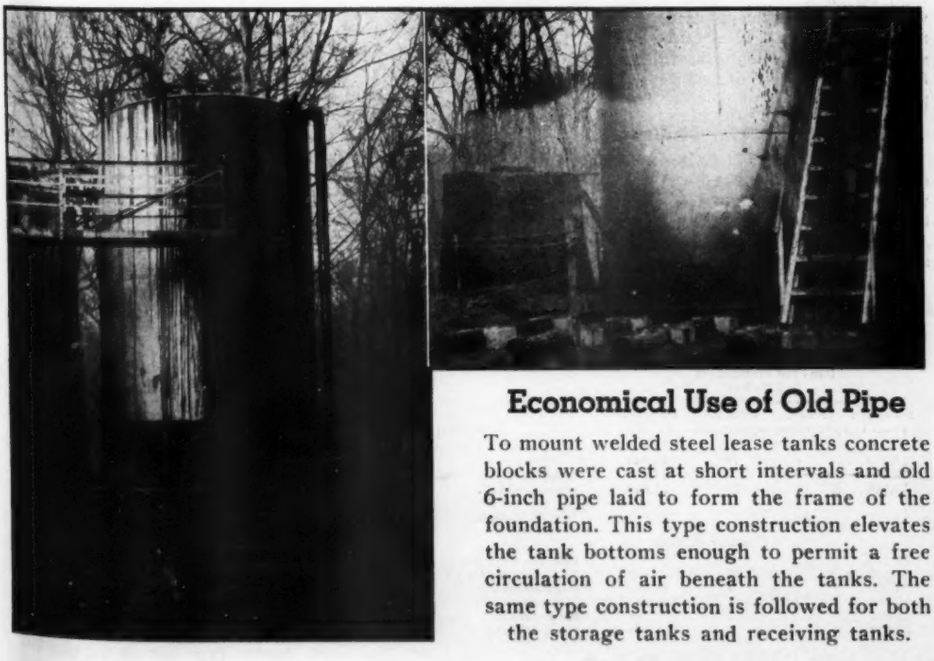
To adjust the position of the centrifugal deep well pump shown in the accompanying picture with relation to the water level in the stream a frame of old casing and pipe

was constructed and the pump hung on a chain hoist suspended from gin pole at the end of the runway. A flexible coupling is provided in the discharge line from the pump to permit the free movement of the pump and electric motor. The well has been drilled in the bank of Big Creek which ordinarily flows at the bottom of a very deep channel. During flood periods the water fills this channel and overflows and in providing the frame to carry pump this great variation in water levels has been taken into consideration. The difference in levels between high and low stage in this creek is more than 25 feet. The pump can be adjusted to operate successfully under either condition or at any intermediate water level.



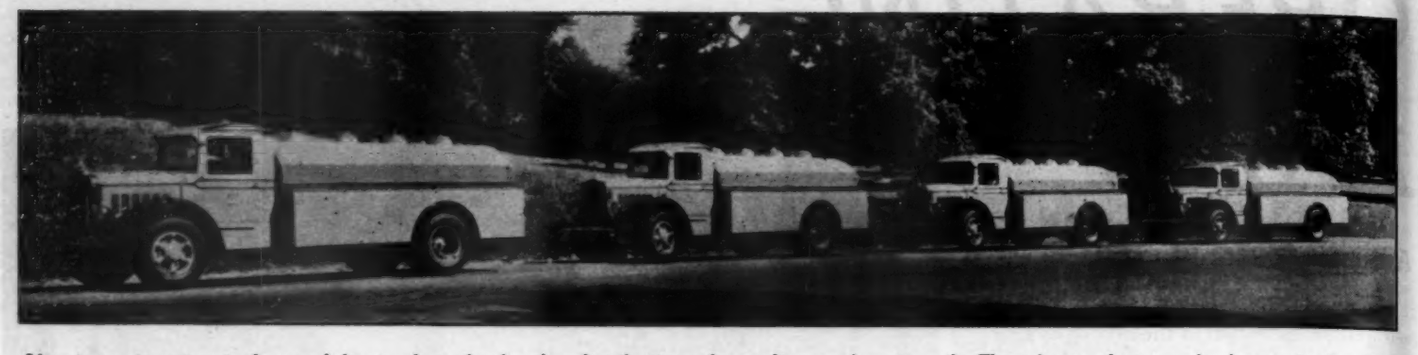
Fuel Supply Regulator

Firing a heating stove with oil presents a problem of providing fuel supply in proper amount and at constant rate. The lease man on this property solved his problem by elevating a barrel of fuel oil on an old oil drum and providing the fuel tank with funnel made out of a short nipple of 5-inch pipe swaged down to take a 1-inch line where attached to the end of the drum. As this funnel is left open at all times it provides a means for air to enter the fuel tank as the oil is withdrawn. By manipulating the burners in the stove to the desired rate a constant supply of fuel is assured.



Economical Use of Old Pipe

To mount welded steel lease tanks concrete blocks were cast at short intervals and old 6-inch pipe laid to form the frame of the foundation. This type construction elevates the tank bottoms enough to permit a free circulation of air beneath the tanks. The same type construction is followed for both the storage tanks and receiving tanks.



Aluminum is extensively used for truck tanks for the distribution of gasoline and motor oil. The above photograph shows 4 of a fleet of 72 trucks, all of which are equipped with aluminum tanks, operated by one major refining and marketing company

Oil Industry Affords Many Favorable Opportunities for Use of Aluminum

What the trisection of an angle is to a mathematician, what the perfect opening against any defense is to a chess player, what the positive power transmission with an infinitely variable speed ratio is to the mechanical engineer—that is what the commercial production of aluminum seemed to chemists from 1825, the year of its discovery, to February 23, 1886.

This problem, like the others, had its tantalizing features—aluminum was the most abundant metal in the earth's crust; more refractory oxides than alumina had been reduced by comparatively simple methods, yet alumina itself defied all attempts at direct reduction. Aluminum could, in fact, be reduced by variations of the process used by its discoverer—the replacement of the aluminum in aluminum chloride with a more active metal. The price of aluminum had been reduced gradually from $545 a pound to $8 a pound in 1886, but the final step, which would reduce the price to that of a common metal and make aluminum available to commerce, was yet to be taken; and many undoubtedly concluded that it was impossible. And yet this final step looked possible; this made it more fascinating to a keen mind than perpetual motion.

On February 23, 1886, the situation was changed by a 22-year-old chemist, Charles Martin Hall, who was not content to indulge in fruitless speculation but decided to go after results. In the face of the failure of previous electrolytic methods of reduction, he produced aluminum by electrolyzing a fused mixture of alumina and cryolite. As a result, in a few years the price of aluminum was reduced to less than a dollar a pound; today, the price of aluminum is about 20 cents a pound.

Other developments were natural sequels to the discovery of the Hall process. Economical methods of refining bauxite to produce the pure alumina required in the Hall process were worked out. Methods of alloying and later of heat-treatment were devised to increase the strength of aluminum.

Other alloys were designed to improve its casting properties; in both cases a secondary consideration in designing the alloy was to retain in the highest possible degree the other desirable properties of aluminum. Fabricating methods were developed to such an extent that aluminum and its alloys can now be worked by practically all the metal working processes.

Owing to the severe conditions placed on a structural material, aluminum plays a very important part in the oil industry in the storage of sour and corrosive crude oils. It is also of value to the industry due to its nonsparking qualities and use in reduction of evaporation losses.

Another line of development, external rather than internal, was directed towards investigating various industries to find applications where aluminum could be used to advantage. This type of research, like the others, is still going on. In fact, for every new metallurgical development, there are probably hundreds of new uses.

Special Oil Uses

One important field to be investigated was the oil industry. It is a field which affords many favorable opportunities to use aluminum, owing to the severe demands placed on a structural material. A number of actual applications have been made and are in service at the present time.

Production equipment, particularly that which handles sour crudes, containing hydrogen sulfide, suffers a rapid turnover because of the inroads of corrosion. The life of such equipment may often be prolonged by constructing it of aluminum.

While aluminum resists salt water under some conditions, it is not so well suited to handle brines as they occur in crudes fresh from the well, i.e., rich in chlorides and low in oxygen. Hence aluminum is not as a rule used in drilling equipment.

A different situation prevails in flow tanks, lease tanks and storage tanks. The brine does not change much in character except for becoming more aerated, but it does settle to the bottom of the tank. Aluminum may be used in the sides and roof of the tank to take advantage of its high resistance to hydrogen sulfide. Not only will the life of the aluminum parts be longer, but so will that of the steel bottom. This phenomenon is explained by the fact that in the all-steel tank, iron sulfide scale falling off the roof and sides settles on the bottom. The iron sulfide and the steel act as a galvanic couple with the brine as an electrolyte, and it is not long before the steel is corroded through. If the upper part of the tank is aluminum no sulfides are formed, and the corrosion of the steel bottom is no longer accelerated by electrolytic action.

Aluminum has been used not only for the sheet parts of the tanks but for the ladders, manhole rings, cast fittings, and thief hole covers. Aluminum sheet has also been used as a sheathing for wooden tank roofs.

Incorporating aluminum to the fullest practicable extent in the tank structure will considerably increase the initial cost, but the life of the tank will often be increased in an even greater proportion. When this is the case, the economy of aluminum construction is readily apparent.

When the oil reaches the refinery, the brine has been largely removed, and what remains is rendered less harmful to aluminum by having taken up atmospheric oxygen. Corrosion problems are less severe, except when sour crudes are being handled. In such cases, aluminum has been used to advantage in heat exchangers, gas lines handling corrosive gases, absorbers, condensers, bubble towers and bubble caps. Experience with cast aluminum bubble caps has shown that if

TYPICAL MECHANICAL PROPERTIES OF ALUMINUM ALLOYS AFFORDING MAXIMUM RESISTANCE TO CORROSION (HARDEST TEMPERS)

Wrought Alloys

Alloy number	Yield strength (p.s.i.)	Tensile strength (p.s.i.)	Per cent elongation in 2 inches (Sheet specimen)	Per cent elongation in 2 inches (Round specimen)	Shear strength (p.s.i.)	Remarks:
28-H	21,000	24,000	5	15	12,000	Commercially pure aluminum.
38-H	25,000	29,000	4	10	16,000	
528-H	36,000	41,000	7	8	24,000	Highest resistance to corrosion.
538-T	32,000	38,000	14	20	26,000	Heat-treated.
Alclad 178-T	32,000	55,000	18	..	32,000	Heat-treated.

Casting Alloys

43	9,000	19,000	..	4	15,000	For general casting—leak-proof.
47	11,000	26,000	..	8	18,000	Requires patented casting methods.
214	12,000	25,000	..	9	19,000	Highest resistance to corrosion.
195-T6	22,000	36,000	..	4	30,000	Heat-treated.
355-T6	27,000	35,000	..	2	30,000	Heat-treated.
356-T6	22,000	32,000	..	4	23,000	Heat-treated.

Modulus of elasticity of all alloys, 10,300,000 pounds per sq. in.

WARREN

STABILIZED NATURAL GASOLINE MEETS THE REFINERS' NEEDS

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they are of the proper composition and quality they will last much longer than other caps in certain types of service. Other refinery uses include tank breathers, flame arrestors, and floats and chains for tank gauges.

The light weight of aluminum plays little part in the applications so far mentioned. It plays an important part in such applications as portable lease buildings and small portable houses for survey and exploration. The high electrical conductivity per unit weight of aluminum cable, steel reinforced, accounts for its extensive use in telephone lines operated in conjunction with pipe lines. The light weight of aluminum is the principal reason for its use in gasoline tank trucks, and to a more limited extent in tank cars. On account of the same quality, it has been considerably used for measuring rods and loading funnels. Aluminum has a quality which makes for safety around gasoline—it will not throw sparks when struck.

A great deal of aluminum has been used in the form of foil for coating various types of tanks. Since the foil reflects the sun's rays, the accumulation of heat during the day is reduced. Also, the bright metallic surface has the property of emitting heat by radiation at an unusually low rate. Hence the contents of the tank do not cool off much at night. The effect of the high reflectivity and the low emissivity of a foil-coated surface is to reduce the range of temperature change in 24 hours. This means that there will be less breathing in a foiled tank and less losses by evaporation. The foil also prevents corrosion to a considerable extent and in this respect provides some of the advantages of all-aluminum construction at low initial cost. The same is true, in a more modified degree, of aluminum paint, of which a great deal has been used in all branches of the oil industry.

Throughout this article the term "aluminum" has been used in its popular sense, which includes the aluminum alloys as well as pure aluminum. A definite answer to the question "which alloy?" can be found only after actual experimentation with various alloys under the exact conditions of service. However, a general knowledge of the aluminum alloys will assist in making a tentative selection, to be confirmed by experiment.

Aluminum Alloys

Aluminum and its alloys resist many acids, hydrogen sulfide, fresh water and air. They are attacked by some strong mineral acids, alkalies, and some brines, especially those containing much chloride and little dissolved oxygen. They are strongly electronegative and hence contact with other metals in the presence of an electrolyte may lead to a galvanic action, which corrodes the aluminum. There are some cases where the electronegative character of aluminum is turned to advantage. One example of this has already been given: the composite aluminum-steel tank.

Alloys of aluminum can be classified into wrought alloys and cast alloys. High purity aluminum (99.5 per cent plus) and commercially pure (99 per cent) aluminum, 28, are always used in wrought form. Wrought alloys are usually tougher than cast alloys, although there are some exceptions in each class.

Aluminum alloys may also be classified as to whether or not their properties may be improved by heat-treatment. If so, they are called heat-treatable alloys. The strength of the non-heat-treated wrought alloys and of pure aluminum depends on the composition and on the amount of cold working which the materials have received. The strength of common cast alloys depends only on their composition, assuming that they are property cast. Heat-treatable alloys, cast and wrought, can be improved in strength not only by the methods given for non-heat-treatable alloys but also by heat-treatment. As a class, heat-treated alloys are the stronger, with certain exceptions.

Still another method of classification is to single out the alloys most resistant to corrosion. All aluminum alloys, compared with metals in general, may be considered resistant to corrosion, but certain ones are outstanding in comparison with the rest. All the classes of alloys previously named are represented in this group. The most resistant form of aluminum, under the majority of conditions, is high purity aluminum. Commercially pure aluminum is a close second to it and has 25 per cent greater strength. Alloy 38, a non-heat-treated wrought alloy containing manganese, has still greater strength with about the same degree of resistance to corrosion as 28. A new non-heat-treated wrought alloy, 528, has a yield strength of 36,000 p.s.i. in the hard temper, and is one of the best aluminum alloys yet developed for resistance to salt water as well as to other corrosive agents.

Another heat-treated material, Alclad 178-T, which consists of a core of 178-T, one of the strongest heat-treated alloys, and an outer sheathing of high purity aluminum or of an alloy resistant to corrosion, withstands severe service exceptionally well. Not only does the outer layer protect the core by preventing contact with the corrosive agent, but since the sheathing is electronegative to the core, it protects the latter electrolytically when punctured or at cut edges. This is another way in which galvanic action may be turned to advantage. Sometimes the surface of Alclad 178-T, since it bears the brunt of the chemical attack, becomes badly disfigured, but tests have shown that the strength is not perceptibly affected. Alclad 178-T is commercially obtainable in the form of sheet and plate.

A summary of the properties of the aluminum alloys having maximum resistance to corrosion is given in Table 1. In the production and refining branches of the oil industry, the demands placed on a structural material are so severe that the selection of an aluminum alloy would probably be made from this group. For purely structural uses of aluminum alloys where light weight and high strength are the prime requisites, the choice is much wider, and any aluminum alloy which has the required mechanical properties will usually resist corrosion sufficiently well under ordinary conditions of exposure. Proper painting will take care of doubtful cases.

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Solvent Refined Lubricating Oils Show an Increased Resistance to Oxidation

By LIEUT.-COL. S. J. M. AULD, O.B.E., M.C., D.Sc.
Vacuum Oil Co., Ltd.

It is for the purpose chiefly of permitting discussion of the claims of solvent extraction to produce high-quality oils of unvarying standard from a wide variety of crudes, and the see how the products behave under present methods of laboratory inspection, that this paper has been written. The process chiefly dealt with is that of propane-cresylic acid extraction. It is not intended in any way to compare or contrast this process with any other. Published results have shown that excellent products may be obtained by the use of a variety of solvents, each process having its own adherents and field of use.

Viscosity Index

By special treatment and choice of raw materials it is possible to make oils of very high viscosity index. Oils of 120 V.I. are by no means laboratory curiosities. It is necessary, however, to hold a careful balance between all the properties desired in an oil and to see that their attainment is kept in perspective with practical value and ultimate cost. For this reason it is of greater interest to observe the effects of solvent refining on individual types of oil than to emphasize the maximum effect which can be produced by its aid. In Table 1 oil (A) is prepared by solvent refining from the same Mid-Continent source, and in the same refinery as the conventionally refined oil—a motor oil of normally good class.

An aviation oil prepared by solvent extraction from the same crude oil as (A) gave in comparison with Pennsylvania aviation oil. See Table 2.

More striking results could be quoted, but the points particularly to be brought into prominence are the ways in which solvent treatment has permitted the mixed base crudes to overhaul the Pennsylvanian oils as sources of high V.I. products and the effect this has had on the nature of the high-grade motor oils of the world. In this latter connection viscosity readings of solvent-refined oils side by side with their immediate predecessors are are shown in Table 3.

TABLE 1—COMPARISON OF VISCOSITIES

Viscosity, Saybolt:	Conventional oil	Solvent refined oil (A)
100° F.	446″	390″
130° F.	201″	184″
210° F.	61″	59″
Viscosity index	100	105

TABLE 2—EFFECT ON VISCOSITY INDEX

Viscosity, Saybolt:	Pennsylvania oil	Solvent refined oil (D)
100° F.	1,890″	1,756″
210° F.	122″	120″
Viscosity index	90	92

Even more striking is the way in which the solvent-refined oils traverse the present S.A.E. classification. The solvent oil is the equivalent in viscosity of an average S.A.E. 30 at 250° F., a temperature of some significance in the normal running of an automobile engine. At the other end of the scale, around zero, it is the equivalent of an S.A.E. 20-W grade, and actually approaches the S.A.E. 10-W grade at lower temperatures.

Summary of paper presented before Institution of Petroleum Technologists, London, taken from The Petroleum Times, in which is observed the effect of solvent refining on individual types and grades of motor oil.

Carbon Residue

Here again the importance to be ascribed to the results of this test as determined on untreated oil is largely a matter of opinion. Its variation in extent in oils of similar source is, however, of definite significance. Data in Table 4, taken from a large number of similar results, is of interest as representing exactly similar oils from the same Mid-Continent crude oil and from the same refinery. The third for comparison is a conventionally refined Pennsylvania oil.

Similar pairs of tests (Ramsbottom) on solvent-refined motor oil (B) and solvent-refined aero oil (C and D) with their exactly corresponding conventionally refined oils are shown in Table 5.

These readings are all on commercial products, and are not specially chosen. This course has been followed throughout with all data quoted.

Resistance to Oxidation

Everything appears to point to this being the most important property of a motor oil. Since the development of the British Air Ministry oxidation test other tests have come into being along the same lines. What a pity that with such comparatively new tests standardization could not have been effected. In Table 6 a comparison of the three tests with which the author has been chiefly concerned—the Air Ministry, the Indiana and the Socony is shown.

No attempt has been made to correlate these tests, nor is there any need to do so, except that it might be possible thereby to learn which is the most discriminatory as regards stability. On the face of it the Indiana and Socony tests, with their longer times and lower temperatures of treatment, appear more "descriptive" of motor conditions and the Air Ministry test of aviation conditions.

In view, however, of the importance of piston-ring fouling in general and its apparent dependence on heat, the Air Ministry test has much to commend it for general acceptance. Moreover, the shorter time involved makes it more practical. As a result, the suggestion has been welcomed that the temperature of oxidation might be still further increased, and opportunity was taken of examining the behavior of conventionally and solvent-refined oils under progressive rise of temperature, other conditions of operation remaining the same. The results shown in Tables 7, 8 and 9 are very striking. The difference in viscosity increase with rise of temperature over 220° C. is particu-

TABLE 4—EFFECT ON CHARACTERISTICS

	Pennsylvania oil	Conventional Mid-Continent oil	Solvent-refined oil (A)
Specific gravity	0.8861	0.8957	0.8794
Flashpoint, open	425° F.	415° F.	410° F.
Viscosity, Redwood:			
100° F.	365″	377″	331″
140° F.	137″	139″	128″
200° F.	57″	57″	55″
Carbon residue (Conradson)	0 53	0.58	0.19
Neutralization value	0.05	0.05	0.01

TABLE 5—COMPARISON OF RESIDUES

	Carbon residue
Solvent refined (B)	0.28
Conventionally refined Mid-Continent	0.80
Solvent refined (C) aviation	0.29
Conventionally refined Pennsylvania	0.88
Solvent refined (D) aviation	0.34
Conventionally refined Pennsylvania	0.55

TABLE 3—EFFECT OF SOLVENT REFINING ON VARIOUS GRADES OF MOTOR OILS

Grade treatment	Extreme winter		Winter		Summer		Aviation		Hvy. aviation	
Viscosity, Redwood:	Solv. (E)	Conv. (E')	Solv. (F)	Conv. (F')	Solv. (G)	Conv. (G')	Solv. (H)	Conv. (H')	Solv. (I)	Conv. (I')
70° F.	616″	870″	1,315″	1,520″	2,160″	3,147″	3,200″	3,100″	4,400″	5,000″
100° F.	255″	338″	475″	510″	740″	939″	1,000″	1,000″	1,350″	1,540″
140° F.	108″	125″	172″	166″	250″	273″	320″	315″	410″	460″
200° F.	54″	56″	65″	63″	83″	83″	100″	98″	120″	121″
Viscosity index	117	97	100	84	100	84	110	100	99	94
Specific gravity	0.870	0.885	0.880	0.900	0.885	0.905	0.882	0.890	0.888	0.895

TABLE 6—COMPARISON OF OXIDATION TEST RESULTS

Oxidation test—	Quantity of oil	Quantity of air	Temp.	Observations
British Air Ministry	40 cc.	15 l./hr.	392° F.	Increase in viscosity and carbon residue after two 6-hour periods.
Indiana	300 cc.	10 l./hr.	341° F.	Times required to form 10 mg. and 100 mg. asphaltenes per 10 gr. oil. Viscosity increase every 50 hours. Up to 150/200 hours.
Socony	300 gr.	2 l./hr. with stirring	350° F.	Sludge as asphaltenes × 10 every 24 hours for 7 days or until 15 per cent sludge is formed. Viscosity, carbon residue, N.V. and evaporation loss on completion of test.

TABLE 7—EFFECT OF INCREASING TEMPERATURE ON OXIDATION

Oil—	Carbon residue (Ramsbottom) with rise of temperature—Temperature of oxidation— Before oxidation	200° C.	210° C.	220° C.	230° C.	240° C.	250° C.
Solvent-refined motor oil (F)	0.25	0.74	1.37	2.09	3.10	4.75	....
Conventionally-refined motor oil (F')	0.58	2.08	3.00	4.23	5.53	7.87	..
Solvent-refined aviation oil (H)	0 22	0.68	....	....	1.99	2.50	2.98
Solvent-refined aviation oil to average DTD 109 viscosity (J)	0.31	0.77	1 20	1.82	2.40	3.52	....
Average DTD 109 specification oil (naphthenic base) (K)	0.47	1.35	2.0	2.79	3.57	5.10	....
	0.47	1 40	....	....	3.32	4.75	5.58

TABLE 10—RESULTS OF LOW TEMPERATURE—100-HOUR TESTS

Oil	Oxidation at 150° C.—Carbon residue— Before oxidation	25 hours	50 hours	75 hours	—Increased vis. at 100° F.— 25 hours	50 hours	75 hours	—Asphaltenes— 25 hours	50 hours	75 hours
F	0.25	0.31	0.33	0.38	1.06	1.11	1.13	Nil	Nil	Nil
F'	0.58	0.67	0.75	0.85	1.08	1.16	1.19	Nil	Nil	0.05
J	0.31	0.32	0.37	0.41	1.04	1.08	1.05	Nil	Nil	Nil
K	0.47	0.55	0.62	0.70	1 09	1.12	1.17	Nil	0.01	0.23

larly marked. This feature presumably represents the formation of oil-soluble oxidation or polymerization products of the asphalteneogen or resinous type, since at identical temperatures the solvent-treated oils give nil asphaltene values.

These results not only speak highly of the great stability of the solvent refined oils; they also indicate that for the best discrimination between oils as regards stability the test adopted should be operated at as exalted a temperature as is compatible with practical convenience and repeatability. Since the higher temperatures also represent more nearly the conditions met in practice, the reframing of heat tests along these lines should be given sympathetic consideration.

To cross-check these conclusions tests were made with the oils referred to in Table 9, modifying the conditions to the low temperature of 150° C., but increasing the time to a maximum of 100 hours (Table 10). The difference between the solvent-treated and the conventionally-treated oils is still clear, but for discriminatory purposes the alterations and rates of alteration are immaterial in comparison with the results obtained by increase of temperature.

Mechanical tests intended to be indicative of the behavior of lubricating oils in practice have many limitations, and except in certain special cases are not yet recognized as of importance in determining lubricating value. It is evident, however, that such tests may be used for supplying information of considerable interest.

A number of machines have been devised from time to time to observe the behavior of an oil and to measure its coefficient of friction under given conditions. One of the most interesting is that developed at the National Physical Laboratory. This machine has been used for a large number of tests, mostly in connection with investigations on oils for internal-combustion engines.

The results are generally shown graphically (a) as the variation of coefficient of friction with bearing temperature; (b) as seizing temperature plotted to a base of time of running; and (c) as "minimum coefficient of friction" to the same base. The result of comparative tests of solvent-refined oils and others of similar viscosity, but conventional refining, are shown in Table 11. The curves of most of the conventionally refined oils indicate an increase in seizing temperature and a decrease in coefficient of friction as the test progresses, but the solvent-refined oils show less variation. This is to be expected from their chemical stability. Their S.T. is consistently higher and their coefficient of friction lower than in ordinary refined oils.

What these tests mean it is difficult exactly to gauge. High S.T. almost certainly represents ability of an oil to withstand a high speed × load factor, and provide a margin of working safety. In any case it is quite clear that oils do not suffer in this respect or as regards their coefficients of friction by being solvent refined.

TABLE 11—RESULTS OF COMPARATIVE TESTS

	Solvent refined	Conventionally refined			Conventionally refined and compounded
		1	2	3	4
Specific gravity	0.883	0.897	0.924	0.910	0.904
Viscosity, Redwood:					
70° F.	2,220"	2,650"	2,500"	3,418"	2,725"	2,350"
100° F.	784"	920"	837"	987"	785"	752"
140° F.	260"	311"	257"	272"	233"	240"
200° F.	83"	99.4"	83"	79"	70"	76"
Viscosity index	97	110	90	62	59	88
Seizing temperature mean (approx.)	240° C.	235° C.	155° C.	*205	210° C.	230° C.
Minimum coefficient of friction, mean	0.00067	0.00070	0.00095	0.00080	0.00075	0.00075
Oxidation test						
Carbon residue:						
before	0.31	....	0.43	0.69	....	....
after	0.88	....	1.37	3.46	....	....
Viscosity increase	1.31	....	1.50	3.48	....	....

*Intermittent seizures at lower temperatures.

TABLE 8—COMPARISON OF STABILITIES

Increased viscosity at 100° F. with rise of temp.

Oil	Temperature of oxidation 200° C.	210° C.	220° C.	230° C.	240° C.
F	1.44	2.02	2.78	5.45	18.0
F'	1.97	3.18	7.76	66.0	....
H	1.38	....	....	....	3.84
J	1.28	1.60	2.23	3.07	5.78
K	1.60	2.04	3.16	5.37	17.0

TABLE 9—FORMATION OF ASPHALTENES

Asphaltenes with rise of temperature

Oil	Before oxidation	Temperature of oxidation 200° C.	210° C.	220° C.	230° C.	240° C.
F	Nil	Nil	Nil	Nil	Nil	Nil
F'	Nil	1.74	3.90	7.06	9.80	12.50
J	Nil	Nil	Nil	Nil	Nil	Nil
K	Nil	0.75	2.30	3.76	5.20	6.96

Engine Tests

Tests on complete aircraft engines are extremely costly, particularly as they must be of considerable duration if conclusive results are to be obtained. It is customary, therefore, to make such tests in special single-cylinder test engines, where strictly comparative results can be obtained. Illustrations of pistons after such tests show that ordinary high-quality oils give practically complete failure in 100 hours' run, due to sticking of the piston rings in their grooves. Similar tests using a suitable solvent-refined oil show the piston rings to be perfectly free and the deposits very greatly reduced. In fact, the piston is fit for further use without cleaning. Admittedly, results such as these would not occur in less than, say 500 hours' flying at high speed, possibly very much longer. They are comparable, however, and by showing the great improvement that can be effected in practice with solvent-refined oils confirm the results obtained by chemical and mechanical tests.

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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit problems to Dr. C. K. Francis. Questions should give as much detail as possible. Inquiries must be signed but only the given initials will be printed. The source of questions is considered confidential. Questions requiring discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered in these columns.

Solvent Refining Agents Toxic and Physiological Properties—Aniline

This is the eighth of a series of brief articles relating to the physiological and toxic properties of the substances used in the solvent extraction methods for the refining of lubricating oils. The previous subjects were: Benzene, phenol, chlorex, nitrobenzene, furfural and sulfur dioxide. The first was published in the issue of December 19, 1935.—Editor.

Aniline. — Formula, $C_6H_5NH_2$; specific gravity, 1.0268; boiling point, 363° F.; melting point, 21° F.; slightly soluble in water, 3.5 per cent; freely soluble in alcohol, ether and chloroform. It is a colorless oily inflammable liquid, which gradually becomes brown on exposure to air, with a characteristic odor and a burning sweet taste.

Aniline, like benzene, nitrobenzene, phenol, cresol and ethylene dichloride, may be absorbed through the skin; this is the common method of poisoning, by spilling on the skin or clothing, by inhaling the vapors and dust, or swallowing dust saturated with it, while drinking or eating.

The first symptom of aniline poisoning is the loss of color, the pallor being followed by development of a blue color on the finger nails, lips and tongue. The blue color stage is usually accompanied by a slight headache, dizziness, staggering gait and a tendency to delirium. Numerous cases of aniline poisoning have been reported where the victims become highly delirious and even maniacal, but this condition seldom lasts over four days.

Underhill states that in the acute stage there is a relative increase in red cells, hemoglobin and oxygen capacity, with a very low blood pressure stimulating a condition of shock. In mild poisoning there may be pallor with cyanosis, weakness unsteady gait, labored speech, irritability, and defective orientation with other symptoms resembling alcoholic intoxication. At a later period there may be loss of appetite, constipation, marked air hunger, and cyanosis, loss of reflexes, jaundice, vomiting, painful micturition and bloody urine. Death in acute aniline poisoning is usually cardiac.

In chronic poisoning the chief characteristic is anemia, with slow pulse, disturbances of digestion, headache, dizziness, head noises, and muscular pains. Skin eruptions of an eczematous and pustular character on various parts of the body especially on the scrotum are common.

Perhaps the most reliable means of diagnosing aniline poisoning, particularly of the chronic type, is by estimation of hemoglobin content. A reduction of 15 to 20 per cent accompanied by stippling of the cells is indicative of aniline poisoning. A dark colored urine, due to the presence of hemoglobin and aniline decomposition products (p. amino phenol) is quite characteristic.

Very few deaths result from aniline poisoning, the fatalities are those where there has been a prolonged exposure to the fumes or the saturated clothing was permitted to remain in contact with the skin for an unnecessarily long time. The rule to be observed when any dangerous substance is spilled on the clothing is to remove the clothing without delay.

The fatal dose of aniline is not known. So little as one-tenth to one-fourth gram has produced serious symptoms, death has been caused by quantities ranging from 25 ml. to 100 ml., but recovery has followed ingestion of 75 ml. Death is rapid in acute cases, generally within 24 hours. Chronic cases may continue over a long period, several weeks being required for a man to recover from an unusual exposure.

A person overcome should be placed in fresh air, with oxygen inhalations if possible, the clothing removed, a saline purgative administered followed by hot black coffee. In very serious cases saline infusions or bleeding with transfusion of blood may be conducted.

References: Underhill, Toxicology. Hamilton, Industrial Poisons in the United States. Newton, J. Amer. Med. Assn., 74, 1,149, 1920.

U. S. Bureau of Mines Classifies the Crude Oils Into Nine Grades

We wish to have a definition of the various bases of crude oil. We are anxious to have some definite information on this and will appreciate you advising us about the details.—C. R. H.

Some years ago the U. S. Bureau of Mines proposed to grade all crude petroleum oils into four classes: (1) Paraffin; (2) asphalt; (3) mixed or intermediate and (4) naphthene. The latest scheme is to divide the oils into nine classes:

1. Paraffin base: Distillates paraffinic throughout.
2. Paraffin-intermediate base: Light fractions paraffinic; heavy fractions intermediate.
3. Intermediate-paraffin base: Light fractions intermediate; heavy fractions paraffinic.
4. Intermediate base: Distillates intermediate throughout.
5. Intermediate-naphthene base: Light fractions intermediate; heavy fractions naphthenic.
6. Naphthene-intermediate base: Light fractions naphthenic; heavy fractions intermediate.
7. Naphthene base: Distillates naphthenic throughout.
8. Paraffin-naphthene base: Light fractions paraffinic; heavy fractions naphthenic.
9. Naphthene-paraffin base: Light fractions naphthenic; heavy fractions paraffinic.

This grouping was discussed on this page in the Journal of November 7 but the ninth class was omitted.

See The Oil and Gas Journal, October 10, 1935, page 31, for an explanation of base.

Furfural Has Low Melting Point

A correction.—In the discussion of the physiological and toxic properties of furfural, February 6, 1936, page 42, the melting point should have been shown with a dash before the 38 to signify that it will remain a liquid at temperatures above minus 38° F. One important requirement for a solvent refining agent is that it shall remain liquid at very low temperatures.

Inspection of Gas Oil Adapted for Cracking Purposes

We should be very grateful if you could inform us how a purchased gas oil could be tested in respect to its suitability as cracking stock. What specifications should be met? What specific test would be suitable for a quantitative determination of cracked material present in a gas oil?—D. G. J.

Gas oil is commonly purchased under what are commonly known as U.G.I. Specifications, which are simply—Distillation 85 per cent between 400° and 700° F.; the coke residue shall not exceed 0.5 per cent; total sulfur shall not exceed 0.5 per cent.

There are two varieties of gas oil as to source, the fraction from crude oil, termed virgin gas oil, and that from the cracking process, called cracked gas oil. The analyses of two oils from Mid-Continent oils of similar gravity will illustrate the difference in the properties of these.

VIRGIN AND CRACKED GAS OILS

	Virgin	Cracked
Gravity, A.P.I.	33.9	33.6
Specific gravity	0.8555	0.8602
Color, N.P.A.	2.5	8
Pourpoint, deg. F.	25	—30
Distillation:		
10 per cent, deg. F.	484	464
50	604	496
90	737	607
Max.	785	706
Flashpoint, open	225	205
Sulfur, per cent	0.17	0.18

While the data are sufficient for identification and may serve to judge the value of a charge for cracking, much more reliable information may be obtained from the results of actual runs in a small pressure still.

One of these is described by Sachanen and Tilicheyev, which can be easily constructed. This is shown in the illustration. It was designed to withstand a pressure of 40 atmospheres at 500° C., with the necessary margin of safety. The complete apparatus was tested by hydraulic pressure at 60 atmospheres and the autoclave itself, which had to work at high temperatures, was tested separately up to 150 atmospheres, having in mind the two- to three-fold decrease in strength of iron at the high cracking temperature used.

The apparatus consisted of the autoclave (1) of 2.5 liters capacity, the dephlegmator (3) for refluxing the heavier fractions to the autoclave, the condenser (6) and the receiver (7) to collect the distillate. The thermometer pocket (2) was provided to measure the temperature of the liquid during the cracking.

In effecting a tight connection between the cover and the autoclave, three styles of arrangement were possible: (1) A flanged joint provided with an annular groove, in which asbestos or similar packing material was placed; (2) a copper gasket placed between flat flanges; (3) ground conical flanges without any gaskets.

The two last methods were used only for high pressures. For the autoclave of the first apparatus, the conical flanges were used. The cover was tightened with eight bolts. With properly ground-in cones, this arrangement proved to be satisfactory since the apparatus was tight enough for practical purposes. Some losses occurred due to leaks in other places. The majority of the experiments showed losses amounting to 2 to 8 per cent, due largely to the production of gases. The cones were reground from time to time (once or twice for every 100 runs) with emery powder in machine oil. About 400 experiments were carried out without any noticeable deterioration of the apparatus.

References: Sachanen and Tilicheyev, Chemistry and Technology of Cracking, page 16. See also The Oil and Gas Journal, June 23, 1927, page 144.

PROBLEMS FROM READERS

Edited by T. F. Smiley

Corrosion Causes Trouble in One of Company's Parallel Pipe Lines

The pipe line company I work for has been having a lot of corrosion trouble in one of two parallel lines. These lines are both made from the same specification pipe and they were laid at the same time in the same ditch. One line has always shown a tendency to corrode rapidly while the other gives little trouble. We have made several attempts to determine the cause of this trouble and have recoated the line once or twice. Have you any suggestions as to the cause?—K. I. Y.

There are several reasons why two lines in parallel in the same ditch may develop trouble such as you describe. The lines act as pole pieces for flow of earth currents, the current leaving one line, which may be likened to the cathode element in a wet battery, and flowing to the other line, which corresponds to the anode of the battery. The strength of current upon the two lines is never exactly balanced, so current flows from one to the other, and the line from which this current leaves is the one that is corroding.

This undoubtedly is known to your engineers, and they evidently are interested in knowing why two apparently similar lines should have difference in current potential. The answer probably will be found in two or three simple things. First it is probable the quantity of mill scale on one line is greater than on the other. This mill scale will oxidize and cause current to be generated.

In backfilling a ditch in which two lines are buried it is possible to so return the earth to the opening as to place upon one pipe line most of the soil from the bottom of the ditch. It is well known that the earth salts increase with depth and if one line is covered with bottom soil from the ditch the chemical action over it will be very different from what occurs over the other line and this will cause difference in potential and set up current flow.

These two simple conditions may have a marked influence upon the rate of corrosion in your lines, and while it would be difficult now to determine the original mill scale condition of the pipe it is possible to obtain soil samples from above each line and have analyses made to ascertain whether there is a marked difference in salt contents in different parts of the ditch. If the whole ditch were opened and carefully backfilled it might do much to reduce corrosion rate.

Has Problem Establishing Location for Pumping Power on Oil Lease

We are in the process of installing a band-wheel pumping power on one of our leases and owing to the arrangement of the wells we are having great difficulty in establishing the location for it. By use of forced polygons we have been able to get a point which we believe is nearly correct, but we are very anxious to have this point exactly right. We will be grateful if you can give us the method of finding this point or if you can tell us where we might get the information ourselves.—W. S. H.

The first general suggestion offered is that you get in touch with manufacturers of this type of equipment to obtain their confirmation of your figures. You will find them well informed concerning all methods of locating powers. There are numerous details in connection with this work, and you will find the manufacturers proceed on three lines of checking.

First a map of the lease is obtained, together with data on all the wells, including their depth, gravity of the fluid, size of the tubing, depth at which tubing is placed, the allowable production, and such other facts as will permit the making of a general estimate of the size power required.

After this preliminary work is done a forced diagram is made which reduces all of these factors to exact components, from which the location of the power can be spotted definitely.

The third necessary step is actually to visit the lease to ascertain the relative positions of permanent structures and natural obstacles which might be in the path of the rod lines.

You will note from this that there is no office method of checking against a forced diagram that has been prepared, but experienced manufacturers will perhaps give you suggestions of value after they see your diagram. In the meantime it is suggested that you consult Uren's book on production methods for a discussion of central powers.

Readers are invited to send questions relating to drilling, producing and transporting operations. These questions will be referred to persons capable of answering authoritatively. The names of those writing for information will be held confidential, initials only being published. This department cannot undertake to answer questions involving royalty or other investments, patents or intricate formulas or questions which should be submitted to consulting engineers, geologists or lawyers.

WHY THEY CALLED IT *Shovel*

The unassuming shovel, which played a highly important albeit a backbreaking part in early pipe line work, has had to retire to a less conspicuous place before the resistless advance of modern devices, such as the ditcher and the backfiller. The word "shovel" is traced to the Middle English "shovele." That the CWA idea existed in England a century or so before Columbus embarked on his big adventure is shown by the following quotation from the Plowman's Tale, which appeared in some editions of Chaucer's Canterbury Tales: "An heep of heremites . . . wenten as werkemen with shoueles and doluem and dykeden to dryve aweye hunger." "A group of hermits . . . went as workmen with spades and with shovels and delved and diked to drive away hunger."

Plastic-Flow Theory in Explanation of Salt Domes on the Gulf Coast

I have been reading an interesting article on the salt domes of the Gulf Coast territory, and there is a reference to what is called the plastic-flow theory to account for these domes. May I ask you to explain this theory? It is not mentioned in anything I have. Are there other theories concerning domes?—G. N. G.

The theories to which you refer have to do with the causes and manner of uplift of salt domes, and not with the ultimate source of the salt or with the origin of the cap rock, which are associated problems. Other theories concerning the mechanics of the uplift include the igneous intrusion theory and the crystal growth theory, neither of which has received so wide acceptance among geologists as the plastic-flow theory. In his "The Geology of Petroleum and Natural Gas," Dr. E. R. Lilley says regarding the plastic-flow theory:

"The exact cause of the flow is open to discussion, but is generally attributed to some form of pressure. The salt masses are, according to the plastic-flow theory, to be considered solely as extreme types of folds in incompetent strata. The degree of thickening of the salt beds must be considered as a direct reflection of the intensity of the forces applied. The form of the resulting dome, whether ridge-like or quaquaversal, must, like the form of the ordinary anticline, be determined by the conditions in the shear zones and competent beds and by the direction of the application of the pressure. In other words, the outlines of the salt masses in any particular area are a direct reflection of the tectonic conditions of that area. The form normal to one area is not necessarily found in the other. Within the one section resulting forms may differ because of the manner in which the different forces have been applied.

"Broadly considered, the movement of the salt must be due to either isostatic or orogenic conditions. Uplift because of isostatic differences implies that the sale has been squeezed upward through lines of weakness due to the greater density of the overlying sediments.

"Orogenic forces are generally considered as resulting in direct lateral thrusts. Where the axial lines of the salt dome ridges are as closely related to the adjacent mountain ridges as they are in the outer arc of the Carpathians, there is no reason to doubt app'ication of lateral thrust.

"The Gulf domes, in all of the cases where the drill has penetrated sufficiently to outline the form, show a marked circular form. This is to be expected if the domes are the result of lateral compression from different directions at right angles to each other. However, the strata of the Gulf area show no evidence of such compression. The salt outlines are as a matter of fact more regular than those in other areas in which cross-folding has taken place. The application of the theory of lateral compression to the uplift of the salt in this area is difficult to understand. Certainly the normal faults, which characterize the Balcones and adjacent fault zones and probably accompanied the Sabine and related uplifts, were not accompanied by extreme compressive action.

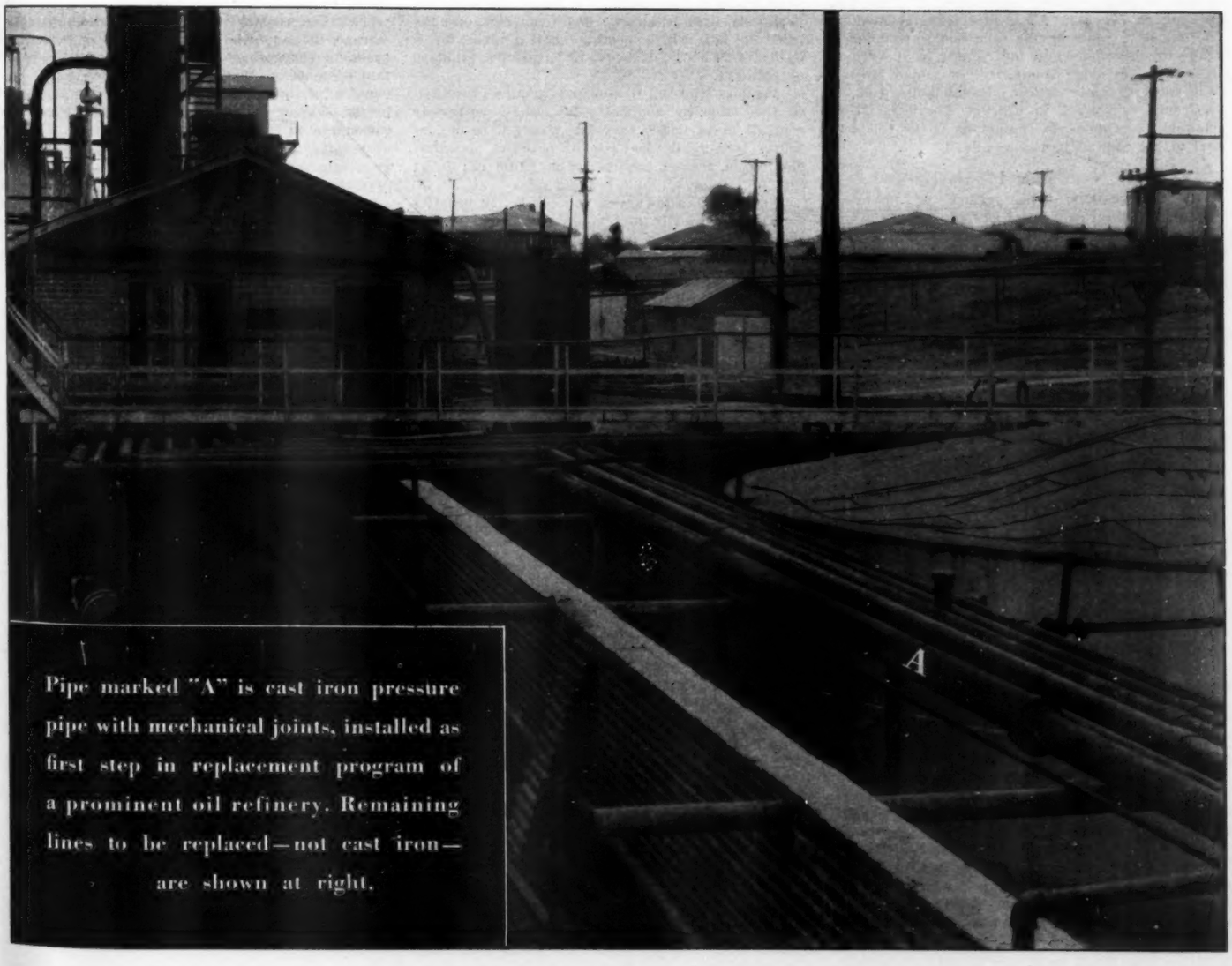
"If the plastic-flow theory is to be retained, the difference in result must be considered as due to conditions in the underlying basement rocks and to application of the forces to those rather than the overlying rocks. The author feels that the force acting upon the salt beds and inducing their upward movement will prove to be a combination of isostatic pressures tending to cause lateral flowage toward areas of lower pressure, plus movement within the deep competent beds and within the shear zone along old lines of weakness."

WHY THE TREND TO CAST IRON for refinery and transmission lines?

In three years for three reasons replacements in oil refinery and high-pressure gas transmission lines have shown a marked trend toward cast iron pipe. Here are the reasons: (1), the unquestioned permanence and effective resistance to exterior and interior corrosion; (2), leakproof mechanical joints that withstand high pressures; (3), economy: lower ultimate cost, and salvage value as a final dividend.

The stuffing-box type mechanical joints made by members of this Association for use with cast iron pressure pipe are bottle-tight, deflectable, and installable by common labor using nothing but a ratchet wrench. Bell-and-spigot, plain end, flanged and flexible joint cast iron pressure pipe is also available.

Performance records from numerous installations and replacements are convincing. Write to The Cast Iron Pipe Research Association, Thos. F. Wolfe, Research Engineer. 1015 Peoples Gas Building, Chicago, Illinois.



Pipe marked "A" is cast iron pressure pipe with mechanical joints, installed as first step in replacement program of a prominent oil refinery. Remaining lines to be replaced—not cast iron—are shown at right.

New 38,600-bbl. pressure tank and safety wall recently placed in gasoline service at Richmond, Va.

Oil Men Studying Text of Code of Fair Practices

The oil marketing code for the middle western territory formulated at a meeting in Chicago February 4-7 is now being studied by the industry, copies having been sent to companies, trade organizations and individuals in the region affected. The code committee, of which Russell Williams, of Gasteria, Inc., Indianapolis, Ind., is chairman, will meet in Chicago February 27 to examine the comments. Following is the complete text of the code as it now stands:

Rule 1

1. Refiner—One who refines or processes crude oil, fuel oil or natural gas into refined petroleum products.

2. Jobber, distributor, or wholesaler—One who carries a stock of petroleum products to sell to dealers or others for resale, including those who may also sell direct to consumers.

3. Retailer or dealer—One who carries a stock of petroleum products to sell to consumers at retail.

4. Consumer—One who destroys the exchangeable value of any petroleum product by use.

5. Vendor—Any refiner, jobber, distributor, wholesaler or dealer who sells petroleum products.

Rule 2

Each vendor of naphtha, gasoline, motor fuel, tractor fuel, kerosene, range oil, heating oil, diesel fuel oil and motor oil shall determine for himself the prices at which he is offering to sell each of such products separately and, having determined such prices, he shall post them, and the area to which they apply at point from which delivery is made. Prices posted shall remain in effect for at least 24 hours, exclusive of Saturdays, Sundays, or holidays, before new prices shall be in effect or posted.

Prices to be posted shall include the prices applicable to all classes, types, methods and quantity of delivery, and to all classes of buyers. Postings shall contain all terms of sales, including discounts and credit terms offered, excepting credit terms need not be posted at service stations.

All prices shall be posted at places readily accessible to the public during the usual business hours. Records of such posted prices shall be available to any inquirer at the place where they were posted for a period of five days after deliveries may have been made at such posted prices or from the date that such posted prices became effective, exclusive of Saturdays, Sundays and holidays.

Spot sales for delivery by tankcar, barge, or cargo shall be posted for 24 hours immediately after the sale is made. Any successful bidder on sales made as the result of a sealed bid shall immediately, upon being awarded a contract, post the price so bid, which posting shall remain for a period of 24 hours, exclusive of Saturdays, Sundays or holidays.

Vendors who sell to consumers, unless prohibited therefrom by applicable law, shall separately post all taxes which they are required to pay or collect because of the sale of naphtha, gasoline, motor fuel, tractor fuel, kerosene, motor oil, diesel fuel oil, range oil and heating oils.

No rebates, allowances, concessions or benefits shall be allowed in any manner so as to permit any buyer to obtain petroleum products at a net lower cost than the posted price applicable at the time of the sale, except any corporation incorporated as a cooperative under the laws of the state in which it operates may pay a patronage dividend if such dividend be paid in accordance with the law of the state where organized.

Prices posted for any stated grade or quality of any product regardless of the method of delivery shall apply to those so posted and to no others.

Each wholesale vendor may, in a state where a fair trade law is in effect, contract with each of his dealers, requiring them to resell his or the manufacturers' products at not less than a minimum price and other provisions compatable with said fair trade law.

Rule 3

Lotteries, prizes, wheels of fortune, or other games of chance shall not be used in connection with the sale of petroleum products.

Vendors of petroleum products shall not give away anything except that vendors at retail may give away maps, touring information, advertising literature, and except that manufacturers and compounders of lubricating oil may give samples of lubricating oils for laboratory analysis or samples of lubricating oils others than for automotive purposes (not exceeding the minimum amount necessary for a test) to wholesalers, distributors, jobbers or consumers who are prospective, but not present, users of that lubricant.

Rule 4

The selling of goods below cost with the intent and with the effect of injuring a competitor and where the effect may be to substantially lessen competition, or tend to create a monopoly or to unreasonably restrain trade, is an unfair trade practice.

In applying this rule to those engaged in more than one branch of the industry, only those costs applicable to the marketing activities shall be considered.

Rule 5

Vendors of petroleum products shall not hereafter construct, lease, lend, furnish, install or relocate pumps, tanks, driveways, buildings, canopies, air compressors, lubricating oil storage or dispensing equipment, grease lifts or pits, grease equipment, grease guns, air towers, light poles, floor lights, material for driveways, buildings or canopies, or any other equipment of any character whatsoever used or usable in connection with the storage, display, sale or consumption of petroleum products (excepting only oil burners and storage tanks connected therewith, pump globes and the usual advertising signs) for or to anyone engaged in the sale or delivery of petroleum products to consumers or for or to consumers.

Vendors of petroleum products shall not hereafter sell any of the things mentioned in paragraph one of this rule (except only oil burners and storage tanks connected therewith) and except that upon expiration of all contractural relationship for the sale and purchase of petroleum products stored in or dispensed through equipment furnished or leased by the vendors to the buyer, and, on request of the buyer, any equipment described in this rule theretofore furnished, or leased to the buyer must be sold in its entirety to the buyers; or, if the buyer does not request that the equipment be sold, then, on the request of anyone about to sell to the buyer petroleum products to be stored in or dispensed through equipment of such type, the equipment in its entirety shall be sold to such new supplier who may then lend it to the buyer.

All such sales of equipment shall be at the fair value thereof. If the owner and purchaser are unable to agree upon the fair value, it shall be determined by arbitration. Anyone about to sell petroleum products to a buyer shall be entitled to use the equipment of the previous supplier at any time after 10 days after requesting to purchase the equipment as herein provided, subject, however, to the obligation to pay the price determined in the manner herein established. If any previous supplier withdraws his equipment, refusing to comply with the provisions of this paragraph, anyone about to sell petroleum products to the buyer may lend and install equipment of like capacity.

Nothing herein contained shall prevent vendors of petroleum products ordinarily engaged in the manufacture and sale of any of the things mentioned in paragraph one of this rule from selling such things to vendors or consumers of petroleum products provided the sale is not conditioned upon the purchase of petroleum products.

Nothing contained in this code shall prohibit any vendor of petroleum products from installing or furnishing any of the equipment above mentioned on land, either:

(a) Owned in fee by such vendor; or,

(b) Held by such vendor under a valid and binding lease; provided that at the time the lease was executed the premises were not improved with any building or other facility or equipment for the sale or storage of petroleum products; or,

(c) Held by such vendor under a valid and binding lease creating a tenancy of at least five years' duration, which lease provides for a substantial rental not determined by the volume of petroleum products sold at the premises and which lease does not contain any provision permitting either party thereto, in the absence of breach of obligation by the other party, to cancel or terminate it or the term thereby granted before the expiration of five years from the beginning of such term.

Vendors of petroleum products shall not lend, lease or otherwise furnish any equipment of any character whatsoever except trademark pump globes and other usual advertising devices to jobbers or anyone purchasing petroleum products by pipe line, cargo, barge, tankcar or truck train.

Vendors of petroleum products shall not pay rentals or otherwise pay for the privilege of displaying advertising on premises where petroleum products are sold.

Vendors of petroleum products shall not render any burner service in connection with the sale of heating oils and fuel oils unless a fair and reasonable charge is made for such service and for any parts furnished.

Vendors of petroleum products shall not grant, in connection with the sale of heating oils, any commission or compensation of any kind whatsoever to anyone manufacturing, distributing, selling, installing, or servicing oil burners, or his employes or agents.

Notwithstanding the two preceding paragraphs, vendors of petroleum products may pay commissions or other compensation to their own regular employes, commission salesmen and bona fide commission agents.

Vendors of petroleum products shall not make any repairs to any equipment of any kind not owned by the vendors.

Vendors of petroleum products may make repairs to equipment owned by the vendors and furnished or leased to or installed with retailers or consumers to the extent necessary to maintain the equipment, its attachments and appurtenances, in a safe and satisfactory working condition, provided such repairs can be made without the removal of the equipment from the premises where installed, but shall not make any changes in such equipment, such as the conversion of a hand or air operated piston type pump or visible type pump into an electric meter pump.

Underground tanks furnished or leased to retailers or consumers may be replaced with other tanks of the same size or removed from the premises for repair.

Rule 6

Before any vendor of petroleum products delivers his products to a retailer or consumer whose place of business is painted with the identifying colors of another vendor of petroleum products, not then supplying such retailer or consumer, the new vendor shall paint out such identifying colors with paint of any color other than any one or more of the colors used by the vendor to identify his stations, but, before doing such painting, such vendor shall communicate with the vendor whose identifying colors appear, inquiring whether there is any written contract which would be violated by such painting. The vendor to whom the inquiry is presented shall respond thereto within 10 days from the date of the inquiry, giving the information requested, and if he claims that such proposed painting would violate any contract, he shall submit such contract for inspection at his office. If the proposed painting would violate the contract, the painting shall not be done.

Except painting required by this rule, vendors of petroleum products shall not do any painting for or furnish any paint free or sell any paint to jobbers, retailers or consumers for any purpose other than for usual advertising signs and for pumps, gasoline buggies, wheel carts, highboys, lubsters or lubricating oil tanks through which the products of the vendor doing the painting or furnishing the paint are sold.

Nothing herein contained shall prevent vendors of petroleum products, ordinarily engaged in the manufacture and sale of paint, from selling such paint to vendors or consumers of petroleum products, provided the sale of paint is not conditioned upon the purchase of petroleum products.

Rule 7

Vendors of petroleum products shall not knowingly induce or assist anyone to break a valid written contract for the sale of petroleum products or a valid lease of premises used for the sale of petroleum products.

Vendors of petroleum products shall not sell or deliver any petroleum products to anyone knowing that such sale or delivery will violate or prevent the performance of a valid written contract.

Nothing herein contained shall preclude the sale or delivery of any petroleum products to any person who justifiably refuses further compliance with any contract, providing code authorities are immediately notified.

Rule 8

When any pump, tank, or other device for the storage, display, consumption, handling, or sale of naphtha, gasoline, motor fuel, kerosene, or lubricating oil bears the name, trademark, or trade name of any person, firm, association or corporation engaged in the manufacture or sale of any commodity, no other person, firm, association, or corporation shall deliver into or deliver for sale from such pump, tank, or other device, or any tank or other container connected therewith, any petroleum products, other than that manufactured, sold, or distributed by the person, firm, association or corporation whose name, trademark or trade name is so affixed. No person, firm, association or corporation shall in any way knowingly be a party to the substitution of one grade or brand of petroleum products for another.

Rule 9

Gasoline shall not be sold from tank-wagons or trucks into the fuel tanks or motor vehicles except in emergencies.

Rule 10

No one shall make any delivery of naphtha, gasoline, motor fuel, tractor fuel, kerosene, range oil, heating oil, diesel fuel oil or motor oil at any refinery, terminal, or bulk plant to a retailer, into any wagon, truck, tank-wagon or tank-truck owned or operated by or for such retailer. The term "retailer" as herein used shall not be construed to include any agent selling such commodities on a commission basis. Delivery may be made in exchange for similar commodities received by the person making the deliveries from the person to or for whom the delivery is made.

Nothing in this rule contained shall apply to deliveries made to bona fide jobbers either in their own vehicles, or for their account, from refineries, terminals, or bulk plants.

Rule 11

The assertion, in written or spoken advertising, or in any other manner, of any false or deceptive claim or representation with respect to the merchandise, prices or services of the one making the assertion, or with respect to the merchandise, prices or services of a competitor, is an unfair trade practice.

The unauthorized use by any vendor of petroleum products of the trademark, slogan, insignia, or emblem of any trade association in the petroleum industry, or the false assertion or claim, by advertisement or otherwise, of membership in any association is an unfair trade practice.

The sale of used oil or other used or reclaimed merchandise or reclaimed oil, without its being conspicuously marked as such, constitutes false advertising.

Rule 12

The administration of this code shall be in the hands of state and metropolitan committees and one regional committee.

The membership and duties of such committees shall be as hereinafter designated.

Memberships upon such committees shall be made up of the following classifications:

1. Majors.
2. Integrated independent refiners.
3. Non-integrated independent refiners.
4. Wholesale car lot marketers.
5. Jobbers.
6. Trackside jobbers.
7. Individually branded jobbers.
8. Cooperatives.
9. Dealers.

Membership of the regional, state and metropolitan committees shall be equally divided between representatives of integrated and non-integrated marketers of petroleum products without any attempt to limit the total number to comprise each committee.

Representatives of all classifications which are above designated as being entitled to membership upon the committees herein provided for, shall in each instance consist of the state or metropolitan executives of the respective marketers comprising the classifications entitled to representation.

Representatives for the regional committee shall in each instance consist of the chief sales executives of the major companies, the integrated and non-integrated refiners, and in the case of the other classifications of persons actively and financially interested in the management of their respective businesses.

The state and metropolitan committees shall be in full charge of the administration of the code in their respective states or districts and shall (a) seek acceptance and adherence to the code, (b) interpret the code, (c) suspend the operation of any part of the code in their state or district in accordance with the rule governing suspensions hereinafter provided, (d) determine when, where and how often meetings of the committee shall be held.

In suspending operation of any part of the code or making any interpretation of the code, said suspensions or interpretation shall not be valid unless by unanimous concurrence of all committeemen present. Before any action can be taken on the suspension or interpretation of any part of this code, each member of the committee shall be entitled to receive a written notice outlining such contemplated suspension or interpretation at least five days in advance of such proposed action.

In the event anyone proposing any suspension or interpretation fail to obtain the unanimous concurrence of committee members, the matter may be referred to the regional committee for final decision.

The budget of each state and metropolitan committee shall be determined by such committee and the expenses incurred paid by those who have accepted the provisions of the code in their respective areas on an equitable basis to be determined by each committee.

For the purpose of immediate organization, the following metropolitan districts are recognized for code committees:

Metropolitan Chicago.
Twin Cities (St. Paul and Minneapolis).
Metropolitan Detroit.
St. Louis-East St. Louis.
Milwaukee County.
Metropolitan Kansas City.

The functions of the regional committee shall be:

(a) The committee shall meet at least once every 30 days, and oftener if so called by the chairman. All meetings, unless otherwise agreed to, shall be at Chicago, Ill.

(b) Act in an advisory capacity to the state and metropolitan committees.

(c) Establish a budget and provide for the necessary funds to carry on the work of the committee.

All notices of regional committee meetings shall be mailed 10 days in advance to each member of the committee, accompanied by an agendum of the meeting, for which a notice is issued. Two-thirds or more of the membership of the regional committee shall constitute a quorum.

The state and metropolitan committees shall themselves, at their first meeting, determine their respective methods of organization, including the number of such committee that shall at subsequent meetings constitute a quorum.

No proxies shall be recognized at a meeting of the regional committee except that any member of such committee may appoint an alternate with full power to act.

East and East Central Texas

By
L. E. BREDBERG

TITUS COUNTY TEST CAUSED UNUSUAL LEASING CAMPAIGN

DALLAS, Tex., Feb. 17.—Some reports state that the R. L. Peveto, C. N. Housh and E. G. Thompson test on the C. M. Carr farm 1½ miles east of Talco in northwestern Titus County will drill plugs on Wednesday this week. Other reports state that it is to be held up for two or three weeks, various reasons being given. However, this area, which extends over into Red River County to the north and northeast, and even over into Bowie, Franklin and Hopkins and as far as Hunt County to the west, has no doubt witnessed one of the fastest, and most concentrated lease and royalty campaigns in the history of the Eastern Texas. Only 10 days were needed to clean up all acreage along the fault line which is an extension of the Balcones along which production is found in the Powell, Mexia and others fields in Navarro and Limestone and other counties to the south and west.

Major companies and others have held a large amount of acreage and many blocks along this fault for years, having purchased previously when a fault line and Woodbine sand play was running rife. However, so far, the Woodbine has proven barren in these northern tier counties of the Woodbine sand belt and it took this Trinity sand test, striking oil somewhere around 4,208 feet in the Paluxy sand, upper member of the Trinity series, to set off another spark to bring independent operators and hordes of major company men back to lease more acreage in the area and along the fault trend.

Many Rumors

Many rumors and reports have come out of the area in regard to the scope and extent of the leasing, but it is a fact that the major companies, several of which were slow in buying in the East Texas field, were not to be left out in this new play. They rushed many of their own land men and had independent lease brokers buying in the area. As a result, the major units now hold the bulk of the best acreage along the fault, within a couple of miles on each side of it extending through the aforementioned counties. The lay is now considered over, leasing being done only on remote acreage which is being purchased, mostly by independents, in hopes of selling later at a profit. Those unfamiliar with the fault line and the narrow fields found along it to the south, struck out in all directions to purchase leases, many of which will be dropped on account of high rentals.

Eight and a quarter inch casing was cemented in the Peveto and others test at 4,166 feet early in the week, about 750 feet of 27 gravity oil standing in the hole when it was shut down at 4,208 feet after making a 25-minute drill stem test at 4,166-4,208 feet through three-eighths inch choke on top and bottom. It was making some gas when tested.

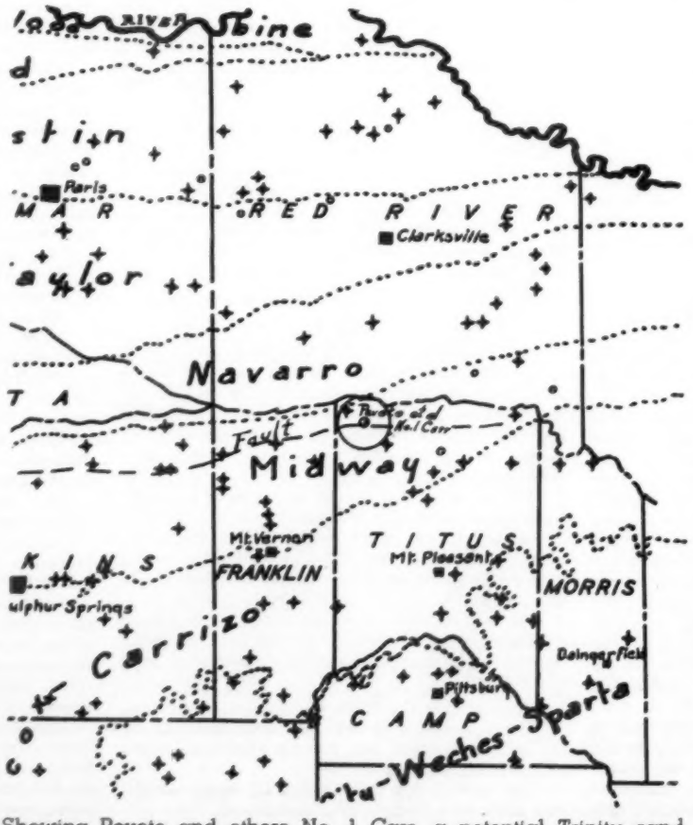
If this test makes a producer, and it appears certain of doing so, it will make the first oil well in the East Texas district from this sand, one other Trinity sand producer in the district, Tide Water and Seaboard Oil Co. No. 21-A Wills in the Cayuga field, northwest Anderson County, producing from the Glen Rose which is below the Paluxy in the Trinity. That well did not have the oil showing that this test has, and operators who know sand conditions in East Texas are positive that any sand body in that district carrying as much saturation is positive of making a producer. That is the reason for the fast play. However, if the test does not prove a producer in this upper portion of the Trinity, chances are good that it will make an oil well from the lower sections, from which production is found in the Rodessa field to the east.

Former Tests in Area

Only one test in this area has been drilled to the Trinity sand, all others including two near the Peveto and others' test only going to the Woodbine and proving failures. The Trinity sand test was drilled by J. P. Flannigan on the J. McGill farm in the H. C. Riggs Survey, about 7½ miles southeast of the new Talco strike. It went to the lower Glen Rose at 7,193 feet before abandoning. Elevation was 376 feet. However, it is south of the fault line which should be of interest to those buying leases hurriedly in the area and not sticking close to the plane of faulting, where the oil is expected to be found.

Two Important Trend Tests

Two tests of interest, both proposed to go to the Paluxy, are now preparing to get under way in Red River County. One of these, Mid-West Petroleum Co. and Texas Oil & Royalty Co. No. 1 Hocker and Hughes, in the M.E.P.&P. Survey, about 9 miles east and a little north of the Talco test, is said to be located on the fault. This was formerly a 3,100-foot test, but it is now to be carried to 4,300 feet, or deep enough to test the Paluxy, and is to spud by March 15. The other, Joiner and others' test on the D. Rust lands, in the C. C. Wilborn Survey, is located about 5 miles to the north of the Joiner test. It also was to go only to the Woodbine, and was started by Gibbens and others, but has been taken over by Joiner and is to get under way in the near future.



Showing Peveto and others No. 1 Carr, a potential Trinity sand producer in Titus County, located on Fault, and area surrounding it which is undergoing a fast lease and royalty play

(Map by Claude F. Daily, geologist, Fort Worth)

Offset Lease Owners

Those holding offset leases close to the Talco discovery are Humble Oil & Refining Co. with a large tract north of that on which the strike is located, Gulf Oil Corp. to the southwest with a large tract, Magnolia Petroleum Co. to the west and Tide Water Oil Co. to the east of the test. C. M. Joiner, discoverer of the East Texas field, is a large fee owner in the county, as well as a holder of several thousand acres of leases, one large block lying about 12 miles east of Talco on which a test is preparing to be drilled on lands of the Huernich heirs in the Henry P. Banks Survey, which will be another interesting deep test for the county. Five miles southeast of the Talco test he is drilling another well, on a 5,000-acre block in the W. H. Crawford Survey. Elevation of this test is 301 feet.

Miscellaneous Leasing

George Ware has taken a block in Limestone County for a Trinity sand test which the Ramsey Petroleum Co. is expected to drill. The Humble Oil & Refining Co. has purchased acreage in the area and other major companies will be sold spreads to finance the drilling.

A block on the old Bassett Fault northeast of the Powell field in Navarro County, has also been sold on the strength of the Talco strike, although it is many miles distant. The block contains some 3,000 or 4,000 acres.

Charlton Griffith and an associate have leased a block southeast of Almer in the John Ables and J. E. Roff Surveys in Kaufman County, and are also taking leases in the northeastern part of the county. Old faults located in this area are receiving new recognition within the past week or 10 days.

Operators and companies are also purchasing along the old Mabank and Prairieville faults in Henderson County, on a trend in which the Humble Oil & Refining Co. was reported to have spent about $1,000,000 in 1925 when Woodbine sand production alone was given consideration in regard to such faults.

The Stanolind Oil & Gas Co., Sun Oil Co., Gulf Oil Corp., Empire Gas & Fuel Co., the Texas Co., Shell Petroleum Corp., Superior and others have been purchasing acreage in Hopkins County, whereas an extensive lease play from Hopkins over into Hunt County along the fault line

(Continued on Page 54)

West and North Texas

By
L. E. BREDBERG

YOAKUM COUNTY WILDCAT IS CENTERING MOST ATTENTION

FORT WORTH, Tex., Feb. 17.—The most interesting wildcat in West Texas, Cascade Petroleum Co. and Honolulu Oil Co. No. 1 Bennett, in section 678, Block D, J. H. Gibson Survey, in southeastern Yoakum County, is expected to be tested this week. Four 500-bbl. tanks have been erected, flow lines have been connected and February 23 will probably see a test made to gauge the potentiality of the well now shut down at total depth of 5,090 feet with the hole full of oil. It had been shut down for two months on account of litigation, but that has been all cleared away, leaving no hindrances to the completion of the well. C. J. Davidson, who drilled the test with the Honolulu Oil Co., now heads the Cascade Petroleum Co., but Honolulu will take over operations at once, and develop the block held by the joint owners, when and if the test proves a producer, which is practically sure.

This well, the first within a radius of 28 miles to drill to the lime, caused a big lease play throughout Yoakum and adjacent counties, especially to the south in Gaines County, where two other tests are now drilling, one of which has found gas at five levels and is still gassing as it drills deeper. The lease play has subsided, but if a good producer is proven when the test is made, another and still greater lease and royalty campaign is expected, extending north into Hockley County where a test is expected to be drilled by one of the major producers, in the southwestern part of the county. Cascade and Honolulu may also drill on a 5,800-acre block in the southeastern part of Cochran County as soon as Yoakum County test is completed.

Gaines Gasser

The test drilling by W. T. Walsh and Harry Adams Corp. on the Averitt ranch, in section 228, Block G, W.T.R.R. Survey, 3 miles northwest of Seminole in Gaines County, and approximately 23 miles south and a little east of the Yoakum discovery, has had continual trouble with gas, striking several pockets, one of which yielded about 15,000,000 feet per day. Several fishing jobs were caused when tools were blown up the hole and lodged, but it is now drilling ahead below 3,940 feet showing more gas in sand, with a show of heavy oil above at 3,365 feet.

All available acreage in the area, and between it and the Wahlenmaier and others' test, 9 miles to the northwest on the Jones ranch in section 414, Block G, has been leased. The Jones test is now shut down at 5,073 feet in hard gray lime topped at 4,980 feet, and will probably be plugged here. Elevation is 3,528 feet, whereas elevation of the Averitt test is 3,322 feet. The Averitt test is almost on a direct line between the Means pool to the south, in northeast Andrews County, and the Yoakum test, which places it in a strategic position as far as trends go and they mean practically everything to the West Texas operator, a map of pools in that district readily showing the reason.

Means Moves Out

The Humble Oil & Refining Co., feeling its way northwestward from production in the Means pool in northeast Andrews County, has staked location for its No. 1 H. A. Moore, 660 feet from the south line and 1,997 feet from the east line of section 13, Block A-20, P.S.L. Survey, about 1½ miles northwest of its discovery well in the pool, which makes it an especially interesting location. If it proves a producer it will mean the expansion of a pool to about 4½ miles from the southeast to the northwest, most of the drilling having been done to the southeast.

Humble Farms Out

The Humble Oil & Refining Co. has farmed out two sections, 9 and 10, in Block B-26, north of the Hendricks field and west of the Sayre pool, section 10, lying just south of small production in section 3, Winkler County. R. H. Henderson and others obtained this acreage and are to drill on it. Tests on these sections are of importance due to their location in connection with the Sayre pool which has been expanding in all directions.

Magnolia Misses

The Magnolia Petroleum Co. No. 1 Walton-State, in section 7, Block B-3, 3 miles north of Kermit and 1 mile west of Sun Oil Co.'s producer in section 8, failed to make a producer in the sand correlating with the Sayre pool pay to the southwest, and is to deepen to the lime which produces in the Sun well and the Keystone wells to the east. It was shot with 120 quarts at 3,105-75 feet, without results, and is now cleaning out to bottom 3,279 feet to deepen. It was previously shot with 270 quarts at 3,191-3,279 feet without results except 1,500,000 feet of gas.

The Herbert Oil Co. has made location for an outpost to the west of the Sayre pool in northern Winkler County. It is in the SW quarter section 14, Block 26, about 1 mile southwest of the nearest producer in the pool.

Deep Drilling

John I. Moore, Loffland Brothers and others No. 1 L. S. McDowell, in section 22, Block 34, Township 23, T.&P. Survey, an Ordovician test in Glasscock County, is drilling ahead below 10,860 feet, in dolomite, with no showings of oil, gas or water reported. The Ellenberger top has been reported at 10,385-10,455 feet and the latest at 10,470 feet. Which is correct will be told later when paleontologists have studied cuttings. Elevation is 2,534 feet. It has already produced aver 200 bbls. of oil from the Pennsylvanian while shut down at 10,115 feet, which increased its importance.

Hurried Drilling

The Sinclair Prairie Oil Co. and others (including Shell Petroleum Corp., Tide Water Oil Co., The California Co., Skelly Oil Co. and Penn) No. 1 J. B. Tubb, in section 3, Block 27-B, 1¾ miles southeast of the recent Ordovician discovery by the Gulf Production Company on the Waddell Ranch in western Crane County, is now drilling against time in order to obtain production and perpetuate leases on the small unitized block which expires March 6. It struck a showing of oil at 2,980-90 feet, another at 2,879-94 feet and is drilling at 3,125 feet in lime. It is still 1,200 feet above where the original Tubb discovery got the pay at 4,295 feet and was completed for a 107-bbl. producer. If the Sinclair Prairie will make a Permian lime producer, a second test will probably be drilled in the same section in quest of the Ordovician pay found in the deep Waddell producer which is making about 75 bbls. per day on the pump from plugged back depth of 6,317 feet.

Extreme Wildcat Gassing

Magnus Oil Co. No. 1 Judkins and Spencer, located in section 4, Block 28-V, northeast of Eldorado, Schleicher County, one of two scheduled deep tests now drilling in this area, topped the lime at 4,330 feet this week and encountered a showing of gas at 4,350-70 feet. It is drilling ahead in gray lime at 4,425 feet, the gas showing focusing attention on this wildcat, which is several miles north of a test recently completed by Cooper and others on the Page Ranch in section 40, Block L, G.H.&S.A. Survey. Gas in that well was logged at 5,404-5,553 feet and oil from 5,505-07 feet.

Proposed Pecos Tests

A block of 22,250 acres has been taken southwest of the Yates field in eastern Pecos County by Dr. J. D. Young and associates, who contemplate sinking three or more wildcat tests on it. Dr. Young is head of the Trans-Texas Oil Co., which has drilled several wildcats in the Permian Basin and is now drilling two in Pecos County, one in the northern part and one, a deep test in the western part. The latter is located on the Caldwell Ranch, in Section 27, Block 40, Township 9, T.&P. Survey, and is down 5,200 feet.

Jones Wildcat Location

R. C. Parker of Graham has staked location and is moving in material for a wildcat test on the C. L. Brown lands in section 2, T.&N.O. Survey. 3 miles north of Hawley in Jones County, in the area where Fain-McGaha Oil Corp. assembled a 600-acre block centering in section 2, on the highway between Hawley and Anson.

Locations and Completions

There were 34 locations staked in West Texas in the past week to substantiate the come back the district is staging in the industry. During the same period only 15 wells were completed, all producing. The Cedar Lake area in northeastern Gaines County is expected to see a test in the near future as a large amount of leasing has been done recently in that area, Rowan and Nichols of Fort Worth leasing about 15 sections formerly held by the Pure Oil Co. The area has recently been reworked with geophysical instruments. A major company is believed to be interested in the block with Rowan and Nichols. The block is located in Block M, E.L. R.R. Survey.

Wichita Falls District

A new producing area was added to the many in Wilbarger County in the North Central or Wichita Falls district this week when King Royalty Co. and Wheeler and Brashear No. 1-N, W. T. Waggoner, located in the northeast quarter of section 104, Block 14, H.&TC. Survey, logged an oil sand at 1,550-52 feet and filled 1,300 feet with oil in 36 hours. It is located 2 miles northwest of the South Vernon pool in the northern part of the county.

Thirty-two locations were made in the district during the week with cold weather cutting down the number of completions to 27.

Production in the North Texas district averaged a little over 62,500 bbls. per day during the week, a small gain over the previous week.

Panhandle District

Eleven locations staked in the Panhandle district during the week and seven wells completed, bad weather slowing up and halting operations. One gasser, a wildcat located in Collingsworth County was drilled by Tom Hunter of Wichita Falls, and associates on the Tinsley Ranch in section 8, Block 13, H.&G.N. Survey. Elevation of the well is 2,134 feet and it was drilled to a total depth of 2,260 feet, but plugged back to 1,880 feet before completing. Initial gas gauge on the well showed a potential of 2,080,000 feet. This test only making a small gasser is not sufficient to create the incentive to drill other tests offsetting it, although it will have some effect on future drilling in the area where higher gas potentials may be found or oil located. It was also given a 110 quart shot of nitroglycerin in the pay at 1,860-75 feet before completing.

Thirty-one independently owned gas

wells were tied into this week by the Northern Fuel Supply Co. whose operating company in the Panhandle field is the North American Oil & Gas Co. The 31 wells produce about 30,000,000 feet of gas daily.

PANHANDLE COMPLETIONS

Completions in the Texas Panhandle with their top of sand record, total depth and initial 24-hour production are given below:

Collingsworth County

Tom Hunter and others No. 1 Tinsley, elevation 2,134 feet, total depth 2,200 feet, plugged back to 1,880 feet, 2,080,000 feet of gas.

Gray County

Danciger Oil & Refining Co. No. 10 Moore, 2,515-2,556 feet, 244 bbls., pumping. Stanolind Oil & Gas Co. No. 6 Wagoner, 3,155-3,230 feet, shot, 345 bbls., pumping.

Moore County

Anderson and Kerr Petroleum Co. No. 2 Morton, 2,760-3,082 feet, 66,500,000 feet of gas. Canadian River Gas Co. No. 17-A Bivins, total depth 3,494 feet, plugged back to 3,310 feet, 5,025,000 feet of gas. Shamrock Oil & Gas Co. No. 1-D Robertson, 3,360-3,381 feet, 499 bbls.

Hutchinson County

Valley Osage Oil Co. No. 1 Jameson, 2,847-2,888 feet, shot, 230 bbls., pumping.

Wheeler County

Cub Oil Co. No. 2 Farris, 1,970-2,105 feet, 21,640,000 feet of gas.

WEST TEXAS COMPLETIONS

West Texas completed wells of the past week with their top of sand and total depth records and initial daily production were as follows:

Crane County

Gulf Production Co. No. 12 Waddell, 3,500-3,536 feet, acidized, 808 bbls. in two hours.

Upton County

Burch and Thomas No. 1 Robbins, 2,093-2,141 feet, 300 bbls. Texas Pacific Coal & Oil Co. No. 8-C Lane, 2,241-2,330 feet, plugged back to 2,300 feet, acidized, 729 bbls.

Ector County

Simms Oil Co. No. 5 University, 3,530-3,690 feet, shot, 505 bbls.

Jones County

Humphrey No. 3 Dorsey, 2,206-2,208 feet, 100 bbls. per hour.

Pecos County

Kone Production Co. No. 2 Pecos Valley, 1,540-1,575 feet, 75 bbls.

Fisher County

Southern Oil Corp. No. 3 Pardue-Scott, 3,110-3,121 feet, acidized, 35 bbls. per hour pumping.

Ward County

Gibson No. 1 Owen & Sloan, 2,250-2,345 feet, 202 bbls. California Co. No. 21 York, 2,365-2,537 feet, shot, 477 bbls. Texas Pacific Coal & Oil Co. No. 11 James, 2,415-2,535 feet, shot, 511 bbls. Richardson No. 25-B Johnson, 2,328-2,585 feet, 1,641 bbls.

Winkler County

Emperor Oil Co. No. 1 Wordley-Halley, 2,688-3,087 feet, shot, 680 bbls. Humble Oil & Refining Co. No. 1 Howe, 2,853-2,985 feet, shot, 1,178 bbls. Maxwell and others No. 7 Daugherty, 2,775-3,014 feet, shot, 976 bbls. Empire Gas & Fuel Co. No. 2-D Daugherty, 2,760-3,036 feet, 524 bbls.

NORTH TEXAS COMPLETIONS

Completions in the North Texas district, with their top of sand record, total depth and initial production follow:

Archer County

L. T. Burns No. 17 Turbeville, 1,510-1,514 feet, 45 bbls.. W. L. Hawkins No. 5 W. R. Pace, 1,199-1,206 feet, 10 bbls. Petroleum Producers No. 15-D Richardson, 1,250-1,258 feet, 30 bbls. Texas Co. No. 2 Pearston, dry and abandoned at 1,492 feet.

Baylor County

Consolidated Oil Co. No. 17-R Portwood, 1,336-1,350 feet, 478 bbls.

Cooke County

Hudspeth No. 2-B Trubenbach, 871-891 feet, 8 bbls. oil and 40 bbls. water. F. W. Merrick Drilling Co. No. 22 Knabe, 775-812 feet, 12 bbls.; No. 1 McCollum, dry and abandoned 1,378 feet. Midtex Oil No. 7 D. W. Wheelock, total depth 1,485 feet, junked and abandoned. Mudge Oil Co. No. 4 Clayton, dry and abandoned at 1,155 feet. Pace Petroleum Co. No. 5 Aldridge, 1,151-1,154 feet, 50 bbls. Vindicator Oil Co. No. 4 Walterscheid, 780-805 feet, 15 bbls.

Haskell County

Anderson and Kerr No. 1 J. F. Ivey, total depth 1,810 feet, junked and abandoned.

Jack County

Engineers Oil Property Corp. No. 2 Shanafelt, 2,982-3,017 feet, 75 bbls.

Wilbarger County

Deep Oil Development Co. No. 1 Waggoner estate, 1,862-1,875 feet, 35 bbls.. Texas State Oil Co. No. 2 Shipley, dry and abandoned at 2,001 feet.

Wichita County

Fred W. Boardman and others No. 1 J. L. Jackson, dry and abandoned at 721 feet. R. R. Clark and others No. 40 Bickley, dry and abandoned at 1,050 feet. George W. Cooper No. 32 Waggoner Brothers, 1,421½-1,437 feet, 10 bbls. Texas Co. No. 422 Waggoner estate, 1,104-1,108 feet, 20 bbls. of oil and 20 bbls. of water. Waggoner Refining Co. No. 4-AA Waggoner estate, 774-783 feet, 15 bbls.

Young County

Alexander and Beavers No. 1 G. B. Hamilton, 893-905 feet, 200 bbls. L. T. Burns No. 3 R. O. Andrews, 899-920 feet, 25 bbls. Duncan and others No. 2 S. M. J. Benson, 900-907 feet, 75 bbls. D. S. Johnson No. 7 E. E. Hall, 666-695 feet, 5 bbls. Rathke Oil Co. No. 2 Wadley Brothers, 3,687-3,828 feet, 178 bbls. oil and 1,500,000 feet of gas. Underwood and Campbell No. 8-A R. Campbell, 879-897 feet, 175 bbls.

East Texas Fields

(Continued from Page 52)

trend into Hunt and southwest on the trend in Kaufman County.

M. J. Delaney of Dallas has given the Stanolind Oil & Gas Co. a 60-day shooting option on his block lying between Commerce and Campbell in Hunt County, the results of which may lead to a Glen Rose test by the major company if the geophysical information proves conclusive enough to satisfy the company that the drilling expense is justifiable.

A. L. Pickens and others have assembled some 10,000 acres in a block running northeast and southwest between Lone Oak and Cash in the Summerlain, A. Lawson, Charles Hart, R. Harrell, J. Griffith, James Hamilton Surveys No. 1 and No. 2 and adjacent surveys in Hunt County, and a test is expected to be drilled on same in the near future.

East Texas Field

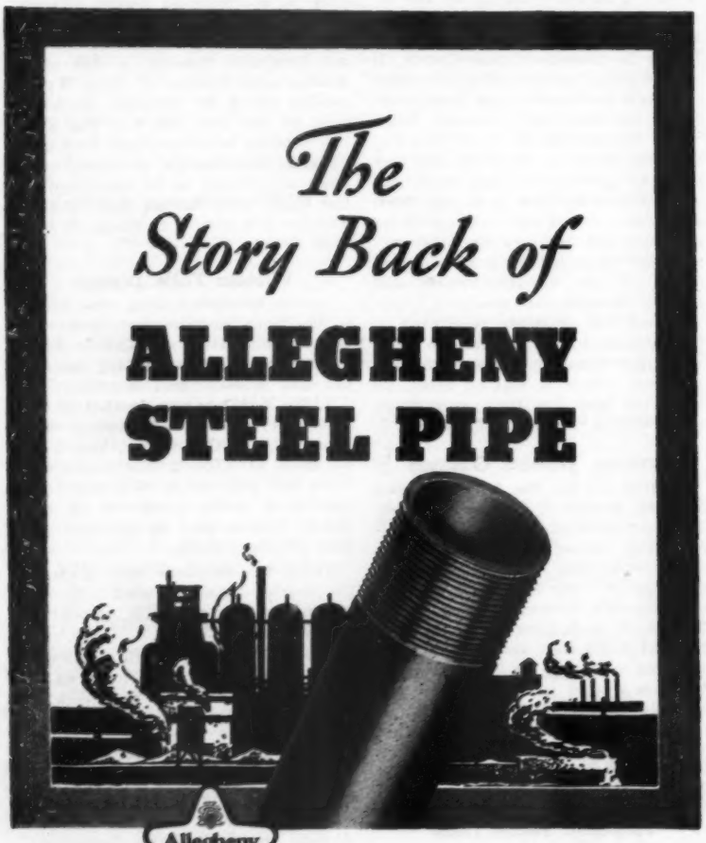
Some news from the East Texas field was reported during the week when Petroleum Marketing Corp. and others No. 1 C. L. Graham-Marathon encountered oil below the water sand on the southwest edge of the pool in Rusk County. The well, located in the Peter Tipps Survey, logged oil sand from 3,672-73 feet, after drilling through the water sand, and made 90 bbls. of oil from the 1-foot saturated streak, which was 2 feet below the water stratum. The test was drilled in with cable tools. It will perhaps be completed this week.

This is a new performance for a well in or on any edge of the field, and if it proves a commercial producer, as it looks certain to do, operators will no longer have their courage dampened by the showing of water in sand, but will drill deeper in an effort to pick up a possible oil sand below the water stratum. Anything seems possible in this vast field, where many queer quirks have been exposed.

Large Sale

Federal Judge James C. Wilson on February 11 authorized the sale of the Virginia Oil & Refining Co.'s 112-acre T. B. Harris lease in the W. H. Castleberry and John Ruddle Surveys in Gregg County, including 16 wells having a daily allowable of 320 bbls. Consideration was $425,000. Walter Logan of Fort Worth, trustee, has been operating the lease, which has been in litigation since shortly after discovery of the field, the Virginia company having had several large holdings in the field which have been the subject of litigation.

The Winn Drilling Co. No. 1 Rettig, on the southwest edge of the field in Rusk County, logged a hole full of



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water after striking salt water sand from 3,710-11 feet and is another definer on this side of the field.

Pits Surveyed

Fifty-five earthen pits in the field have been surveyed and measured by the engineering department of the Railroad Commission, which found their capacity 1,345,860 bbls., with a net total oil content of 833,298 bbls. Thirteen of the pits were located in the Mary Van Winkler Survey in the Kilgore area, Gregg County.

EAST TEXAS COMPLETIONS

Following are the completions of the past week in review in East Texas and East Central Texas, with top of sand record, total depth and initial production:

Gregg County

Arkansas Fuel No. 8 Hestand, 3,513-3,631 feet, 26 bbls. in 15 minutes; No. 4 L. Walker, 3,615-3,640 feet, 26 bbls. in 15 minutes. Humble Oil & Refining No. 23 W. C. Mackey, 3,592-3,600 feet, 33 bbls. in one hour; No. 25 W. C. Mackey, 3,562-3,577 feet, 23 bbls. in one hour. Magnolia Petroleum Co. No. 23 R. B. White, 3,499-3,530 feet, 27 bbls. in 15 minutes. Simms Petroleum Co. No. 4 B. Wood, 3,518-3,586 feet, pumping 35 bbls. daily. Stanolind Oil & Gas No. 13 M. Jones, 3,527-3,548 feet, 16 bbls. in 15 minutes. Stanolind-Simms No. 14 J. W. Aiken, 3,514-3,604 feet, 28 bbls. in 27 minutes; No. 11 Albright, 3,526-3,580 feet, 80 bbls. in one hour.

American Liberty No. 21 Sabine River Tr. No. 5, 3,544-3,550 feet, 20 bbls. in 20 minutes. Arkansas Fuel No. 31 Hughey-Ross, 3,527-3,562 feet, 19 bbls. in 16 minutes. Constantine Refining Co. No. 2 J. S. Elder, first sand 3,491 feet, second sand 3,500 feet, total depth 3,530 feet, swabbing 15 bbls. per hour. O. R. Cooper and others No. 3 Thompson, 3,521-3,540 feet, 40 bbls. in 30 minutes. Groleman Oil Co. No. 8 A. A. King, 3,685-3,688 feet, 30 bbls. in one hour. Relle Oil Corp. No. 6 A. L. Still, 3,495-3,522 feet, pumping 10 bbls. in one hour.

Shell Petroleum No. 59 Watson, 3,543-3,566 feet, 60 bbls. in one hour. Sinclair Prairie No. 49-A King, 3,465-3,510 feet, 20 bbls. in 15 minutes. Sun Oil Co. No. 9 J. S. Elder, 3,565-3,573 feet, 48 bbls. in one hour.

Rusk County

Houston Oil Co. No. 4 Wells, 3,676-3,738 feet, 60 bbls. in one hour. Hurtle Oil Co. No. 11-B D. Williams, 3,595-3,623 feet, 25 bbls. in one hour. Nevrsuch Oil Co. No. 12 A. Givens, 3,632-3,652 feet, 37 bbls. in 30 minutes. Stanolind Oil & Gas No. 7 C. O. Christian, 3,651-3,655 feet, 35 bbls. in eight hours through one-eighth inch choke.

Harry Allsman No. 2 Propes, 3,540-3,704 feet, swabbing 90 bbls. in 10 hours. Arcadia Refining Co. No. 2 Gilstrap, 3,581-3,639 feet, swabbing 20 bbls. in one hour. Nick Barbare No. 1 J. H. Propes, 3,529-3,555 feet, pumping 20 bbls. in three hours. Chalk-Slaughter No. 5 Frederick, 3,586-3,620 feet, pumping 30 bbls. in one hour. E. Constantine Refining No. 2 Cary, 3,538-3,589 feet, pumping 6 bbls. in one hour. E. Constantine & Co. No. 6 M. Watkins, 3,590-3,560 feet, pumping 20 bbls. in eight hours. E. Constantine, Jr. No. 4 M. Watkins, 3,597-3,639 feet, pumping 20 bbls. in eight hours. Davis-Smith-Barclay No. 1 D. Bradford, 3,559-3,670 feet, pumping 80 bbls. daily. Droppleman Drilling Co. No. 9 F. J. Cox, 3,675-3,705 feet, 60 bbls. in 30 minutes.

Gant-Garvin-Wegner No. 5 Strickland, 3,631-3,693 feet, 5 bbls. in one hour. Gulf Production No. 15 O. H. Grissom, 3,738-3,748 feet, 40 bbls. in one hour through three-quarters inch choke. Humble Oil & Refining No. 19 P. R. Guerin, 3,694-3,739 feet, 40 bbls. in one hour; No. 7 T. M. Wooley, 3,740-3,759 feet, 21 bbls. in 24 minutes. Hunt Production Co. No. 14 V. E. Reed, 3,565-3,665 feet, pumping 22 bbls. in two hours. C. L. McMahon No. 4 Finney, 3,606-3,672 feet, 25 bbls. in one hour. Mabee, Conso. No. 1-D J. P. Maxwell, 3,607-3,613 feet, swabbing 20 bbls. in three hours. Octo Oil Co. No. 2 Marwill, 3,580-3,619 feet, casing collapsed, abandoned. Texas Co. No. 9 J. M. Price, 3,598-3,636 feet, 20 bbls. in 25 minutes, 2-inch tubing.

Smith County

Drury & Meek Corp. No. 1-B George Cole, 3,838-3,839 feet, 80 bbls. in one hour. Sinclair Prairie No. 52-A Mayfield, 3,812-3,813 feet, 15 bbls. in 30 minutes. Sells Petroleum Co. No. 7 J. A. St. Clark, 3,749-3,750 feet, 25 bbls. in 30 minutes. Sun Oil Co. No. 7 R. L. Henson, 3,721-3,724 feet, 40 bbls. in one hour, 1-inch choke.

Upshur County

H. B. Clarkston No. 6 E. O'Byrne, 3,624-3,648 feet, 49 bbls. in one hour. Day Oil Co. No. 4 B. Victory, 3,671-3,672 feet, 20 bbls. in 30 minutes. Humble Oil & Refining No. 12-B E. O'Byrne, 3,660-3,660 feet, 27 bbls. in one hour. Independent Supply No. 3 C. T. Shelton, 3,705-3,713 feet, 20 bbls. in one hour.

MISCELLANEOUS

Anderson County

Tide Water-Seaboard No. 1 Lutterloch, 4,047-4,049 feet, 149 bbls. in 24 hours, one-eighth inch choke, casing pressure 1,300 pounds, tubing pressure 510 pounds.

Henderson County

Earl Corley No. 1 Loper, 4,022-4,093 feet, Woodbine sand, 109 bbls. in 24 hours, one-eighth inch choke, tubing pressure 500 pounds, casing pressure 1,260 pounds.

Van Zandt County

Cauble-Thompson No. 2 McKenzie, 1,196-1,234 feet, pumping 2½ bbls. daily. Lane-Tex No. 3 Listenbee, 1,224-1,242 feet, pumping 5 bbls. daily.

Canadian Imports

OTTAWA, Ontario, Feb. 15.—Imports of natural casinghead, compression or absorption gasoline into Canada in November, 1935, totaled 4,907,870 gallons valued at $304,672 compared with 5,991,962 gallons worth $422,529 in October. Imports from the United States declined from 3,411,863 gallons at $233,624 to 2,350,640 gallons at $136,609; and imports from Peru dropped from 2,580,099 gallons at $188,905 to 2,557,230 gallons at $168,063.

Imports of gasoline lighter than .8235 specific gravity totaled 2,082,373 gallons worth $164,843 in October and 1,400,119 gallons worth $118,381 in November. Of the October imports 519,625 gallons worth $33,207 came from Rumania and the rest from the United States, while all the November imports were from the United States.

Exports of gasoline and naphtha were 12,921 gallons valued at $1,599 in October and 598,336 gallons at $92,717 in November.

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Rocky Mountain Area

By
T. R. INGRAM

LEA COUNTY SHOWS RESULTS WHILE OTHER AREAS FREEZE

DENVER, Colo., Feb. 17.—Blizzards and subzero weather in the Rocky Mountain area put a stop to drilling operations in many northern fields, resulted in supply trucks being stalled, scouts marooned and delays in mail deliveries. It reached 38 below zero in the Cut Bank field in Montana, 49 below at Cody, Wyo., and 25 below at Denver. The only completions in the northern states were two small gas wells in Big Horn and Liberty Counties, Montana.

NEW MEXICO

There were two completions in the Eunice field in Lea County. Humble Oil & Refining Co. No. 2 Adkins, C SW SW section 10-21-36, was acidized and flowed 1,704 bbls. of oil through three-quarter inch choke in the first 24 hours. It was drilled to 3,910 feet and plugged back to 3,888 feet.

Continental Oil Co. No. 1-B-28 Lockhart, C NW NW section 28-21-36, had pay at 3,919-30 feet, total depth, and in the first 24 hours flowed 672 bbls., natural, through three-quarter inch choke.

In the Monument area, Gulf Oil Corp. No. 1 Graham-State-C, C NW SE section 24-19-36, had pay at 3,950-4,040 feet, total depth, was acidized, flowed 389 bbls. through tubing in the first 24 hours, and was completed. Amerada Petroleum Corp. No. 1 Weir, C SW SW section 35-19-36, was completed at 3,945 feet, total depth, flowing 360 bbls. of oil naturally in 24 hours, through choke. Same operator's No. 2 State-D, C SW NW section 1-20-36, had oil pay at 3,818-3,915 feet, total depth, and was completed after flowing 302 bbls. naturally through one-half inch choke, in 24 hours. Republic Production Co. No. 2 Selby-Maveety, C NE SW section 35-19-36, flowed 1,368 bbls. through tubing in the first 24 hours, after acidizing, and was completed in oil pay at 3,830-3,927 feet, total depth. Sun Oil Co. No. 4 Weir, C NW SE section 35-19-36, was completed at total depth of 3,938 feet, flowing 1,008 bbls. through 1-inch choke in first 24 hours, after acidizing. Texas Co. No. 3 State-E, C NW SW section 1-20-36, topped pay at 3,880 feet, 3,910 feet total depth, was acidized, flowed 2,094 bbls. in 24 hours, the gas gauging 1,365,000 feet, and was completed. Skelly Oil Co. No. 1 King, C NE SW section 6-23-37, was dry and abandoned with sulfur water in the hole at 3,917 feet, total depth.

Eunice Area

General Crude Oil Co. No. 1 State, C NW SW sec. 32-21-36.
T.D. 2,974 ft.; swabbed 40 bbls. of oil and 14 bbls. of water per day preparing to pump.

Gulf Oil Corp. No. 2 North Bell-State, C SE NE sec. 5-21-36.
T.D. 3,885 ft. in lime; would not flow from below packer at 3,869 ft.; acidized, no test; resetting packer.

Gulf Oil Corp. No. 7 Bell-Ramsey, State, C SW NW sec. 4-21-36.
T.D. 4,217 ft.; to plug back to 4,085 ft.

Tide Water Oil Co. No. 1 State-D, C NW SE sec. 16-21-36.
T.D. 3,805 ft. in lime; set 5 3/16-in. casing.

Gulf Oil Corp. No. 1 A. L. Christmas, C SE SE sec. 27-22-36.
Drlg. 3,400 ft.

Devonian Oil Co. No. 2 State-Heasley, C NW SE sec. 5-21-36.
T.D. 3,866 ft. in lime; flowed 30 bbls. oil an hour, testing.

Humble O. & R. Co. No. 3 Adkins, C NE SW sec. 10-21-36.
Cellar and pits.

Gulf Oil Corp. No. 1 Janda-B, C NW SE sec. 32-21-36.
Drlg. 2,580 ft.

Ohio Oil Co. No. 1 State-Maxwell, C NE NW sec. 16-22-36.
T.D. 3,886 ft.; acidized and shot; flowing 100 bbls. daily by heads; cleaning out.

Ohio Oil Co. No. 4 State-McDonald, C SE SE sec. 16-22-36.
T.D. 3,715 ft.; set 6¼-in. casing.

Barnsdall Oil Co. et al No. 1 Hardy, C SE NE sec. 29-21-37 (wildcat).
Drlg. 3,275 ft.

Continental Oil Co. No. 1-B-4 Meyer, C SE SW sec. 4-21-36.
Drlg. 3,330 ft.

Continental Oil Co. No. 2-B-4 Meyer, SW SW SE sec. 4-21-36.
T.D. 3,760 ft.; drill stem test 3,710-50 ft., showed 2,000,000 ft. gas and 210 ft. mud.

Continental Oil Co. No. 3-B-4 Meyer, SE SE NE sec. 4-21-36.
T.D. 3,870 ft. in lime; acidized and testing.

Continental Oil Co. No. 4-B-4 Meyer, C NE SW sec. 4-21-36.
Set 5½-in. casing; T.D. 3,800 ft.

Continental Oil Co. No. 2-B-28 Lockhart, C SW NW sec. 28-21-36.
Drlg. 3,896 ft.

Gulf Oil Corp. No. 4 Orcutt, C NE NW sec. 5-21-36.
Drlg. 1,430 ft.

Gulf Oil Corp. No. 5 Orcutt, C SW SE sec. 5-21-36.
Drlg. 2,614 ft.

Gulf Oil Corp. No. 1 East Bell-State, C NW NW sec. 15-21-36.
Drlg. 2,958 ft.

Empire Gas & Fuel Co. No. 4 State-C, C SE SW sec. 16-21-36.
Set 7-in. casing, T.D. 3,760 ft.

Getty Oil Co. No. 1 State-C, C SE NE sec. 16-21-36.
Drlg. 3,380 ft.

Skelly Oil Co. No. 1 King-B, C SW SE sec. 32-22-37.
Drlg. 2,845 ft.

Gulf Oil Corp. No. 1 Eunice-Graham-State, C SW SE sec. 6-21-36.
Rigging up rotary.

Continental Oil Co. No. 5-B Meyer, 2,200 ft. from S and 440 ft. from E lines of SE¼ sec. 4-21-36.
Set 5½-in. casing, T.D. 3,795 ft.

Humble O. & R. Co. No. 1 J. D. Knox, C NW SE sec. 10-21-36.
Rig, waiting on tools.

Gulf Oil Corp. No. 1 H. C. Collins, C SE NW sec. 14-21-36.
Drlg. 1,210 ft.

Tide Water Oil Co. No. 2 State-D, C SW SE sec. 16-21-36.
Drlg. 1,070 ft.

Gulf Oil Corp. No. 4 Arnott Ramsey-C, C SW NW sec. 21-21-36.
Drlg. 2,209 ft.

Empire Gas & Fuel Co. No. 2 Felton, C SE NW sec. 28-21-36.
Moving in material.

Devonian Oil Co. No. 3 State-Heasley, C NE NE sec. 5-21-36.
Location.

Amerada Pet. Corp. No. 3 Houston, C NW NE sec. 7-21-36.
Set 12½-in. casing, T.D. 285 ft.; gas gauged 5,000,000 ft.

Continental Oil Co. No. 1-B-18 Meyer, C SE NW sec. 18-21-36.
Drlg. 2,035 ft.

Gulf Oil Corp. No. 3 Arnott-Ramsey-C, C SE SW sec. 21-21-36.
Cellar and pits.

Continental Oil Co. No. 3-B-28 Lockhart, C NW SW section 28-21-36.
Cellar and pits.

Continental Oil Co. No. 4-B-28 Lockhart, C SW SW sec. 28-21-36.
Rigging up rotary.

Republic Production Co. No. 1 Davis, C SW SW sec. 34-23-36.
Location.

Skelly Oil Co. No. 1 Simms, C SW NE sec. 3-23-37.
Location.

Skelly Oil Co. No. 1 King, C SE NW sec. 4-23-37.
Rigging up rotary.

Plains Production Co. No. 1 Mosley, C NW SE sec. 34-24-37.
Building rig.

Empire Gas & Fuel Co. No. 4 State-D, C NE NE sec. 32-21-36.
Set 12½-in. casing, T.D. 315 ft.

Texas Pacific Coal & Oil Co. No. 1 State Acct. 2, C SE SW sec. 9-22-36.
Old well; T.D. 3,835 ft.; deepened to 3,874 ft.; plugged back to 3,873 ft.; flowed 20 bbls. per hour through 1-in. choke.

Continental Oil Co. No. 6-B-4 Meyer, 330 ft. from S and 1,980 ft. from W lines of NW¼ sec. 4-21-36.
Cellar and pits (first report).

Continental Oil Co. No. 4-A-18 Lockhart, C SW SW sec. 18-21-36.
Drlg. 978 ft.

Continental Oil Co. No. 2-A-30 Lockhart, C NE NE sec. 30-21-36.
Old total depth 3,942 ft.; cleaning out, to deepen.

Gulf Oil Corp. No. 1 Arnott-Ramsey-D C NW NW sec. 33-21-36.
Rigging up rotary.

Hobbs Area

Continental Oil Co. No. 1-D-19 State, C NW SW sec. 19-19-37.
T.D. 3,977 ft.; tubing to test.

Continental Oil Co. No. 1-A-6 Britt, C SW SW sec. 6-20-37.
Drlg. 3,532 ft.

Barnsdall Oil Co. No. 3 Cooper, C NW NW sec. 7-20-37.
T.D. 3,895 ft.; flowed 167 bbls., one hr., through choke; may acidize.

Oilwell Drlg. Co. et al No. 1 Morris, SW SW SE sec. 21-18-38.
Set 7-in. casing, T.D. 4,066 ft.

Gulf Oil Corp. No. 1 Steve Taylor, C SE NE sec. 24-18-38 (wildcat).
T.D. 4,882 ft.; plugged back to 4,596 ft.; will rig up standard tools.

Shell Pet. Corp. No. 1 State-E, C W½ SE SE sec. 14-18-37.
T.D. 4,274 ft.; plugged back to 4,178 ft.; S.D.

Texas Co. No. 1 State-C, C SE SW sec. 19-19-37.
Drlg. 3,188 ft.

Gulf Oil Corp. No 3 Culp, C SE NW sec. 19-19-37.
Drilling plug, 3,818 ft., total depth.

Amerada Pet. Corp. No. 1 State-K, C SE NW sec. 29-19-37.
Drlg. 3,139 ft.

Gulf Oil Corp. No. 1 Graham-State "D," C SW SE sec. 19-19-37.
Drlg. 1,725 ft.

Texas Co. No. 2 State-G, C SW SW sec. 19-19-37.
Drlg. 1,148 ft.

Amerada Pet. Corp. No. 1 State-L, C SW NW sec. 20-19-37.
Drlg. 2,247 ft.

Gulf Oil Corp. No. 4 Culp, C SW NE sec. 19-19-37.
Rig.

Gulf Oil Corp. No. 5 Culp, C SE NE sec. 19-19-37.
Rig.

Anderson & Prichard Corp. No. 2 Britt, C NE NW sec. 7-20-37.
Drlg. 1,097 ft.

Ohio Oil Co. No. 1 State-Elliott, C NW SE sec. 30-19-37.
Setting 13⅜-in. casing, T.D. 172 ft.

Texas Co. No. 1 Phillips, NW NW NW sec. 6-20-37.
Rigging up rotary.

Monument Area

Shell Pet. Corp. No. 1 State-C, C NE NE sec. 24-19-36.
T.D. 4,069 ft.; acidized with 20,000 gals.; pumped 123 bbls. oil in 24 hours, testing.

Shell Pet. Corp. No. 2 State-C, C SE NE sec. 24-19-36.
Drlg. 3,930 ft.

Amerada Pet. Corp. No. 1 Weir-A, C NW SW sec. 25-19-36.
Drlg. 2,472 ft.

Amerada Pet. Corp. No. 1 Phillips, NE NE NE sec. 1-20-36.
Drlg. 2,420 ft.

Gulf Oil Corp. No. 2 Graham-State "B," C NE SE sec. 2-20-36.
Setting 7-in. casing, T.D. 3,730 ft.

Texas Co. No. 2 State-F, C SE SE sec. 24-19-36.
Drlg. 880 ft.

Gulf Oil Corp. No. 2 Graham-State-C, C NW NE sec. 24-19-36.
Building rig.

Gulf Oil Corp. No 1 Graham-State-F, SE SE SE sec. 36-19-36.
Moving in rotary.

Cooper Area

Skelly Oil Co. No. 1 Harrison, C NW SW sec. 5-23-37.
T.D. 3,794 ft.; plugged back to 3,762 ft.; shot with 870 quarts at 3,490-3,762 ft.; flowed two 25-bbl. heads and "died"; trying to run 1,097 ft. of 7-in. liner, perforated.

Gulf Oil Corp. No. 2 Cooper, C NW SE sec. 14-24-36.
T.D. 3,698 ft.; sulfur water; plugged back to 3,550 ft.; set packer at 3,468 ft.; filled 1,800 ft. with sulfur water, to test.

Continental Oil Co. No. 2-A-15 Vaughan, 1,980 ft. E and 660 ft. S lines, sec. 15-24-36.
Location.

Skelly Oil Co. No. 1 Simms, C SW NE sec. 4-23-37.
Drlg. 3,235 ft.

General Crude Oil Co. No. 1 State-F, C SW SW sec. 2-24-36.
Drlg. 1,760 ft.

Amon Carter et al No. 1 Hair, C SW NW sec. 11-24-37.
Drlg. 3,667 ft.; 1 baller of oil per hr.

Lea County—Miscellaneous

Harry Leonard No. 1 Justice, C SW NW NW sec. 20-25-37.
T.D. 3,501 ft.; plugged back to 2,970 ft.; S.D.

Harry Leonard No. 1 Leonard-Lanhart, C SW NE sec. 21-25-37.
Drlg. 1,235 ft.

Stanolind O. & G. Co. No. 29 Farnsworth, C SW NW sec. 18-26-37.
Drlg. 1,540 ft.

W. I. Todd et al No. 1 Lemon permit, C NW SW sec. 17-21-32.
Drlg. 1,190 ft.

Maljamar O. & G. Co. No. 6 Balsch, C NW SE sec. 21-17-32.
Drlg. 2,150 ft.

Vierson & Brown No. 1 Robbins, C NW SE sec. 14-11-32.
T.D. 4,713 ft.; S.D. for repairs.

Shell Petroleum Corp. No. 1 State-Endured, C SE NW sec. 11-21-35.
Drlg. 82 ft.

Culbertson-Irwin & Stovall No. 1 Humphrey, C SE SW sec. 3-25-37.
Rigging up spudder.

Plains Production Co. No. 1 George Smith, C SE SE sec. 4-25-37.
Rigging up spudder.

Culbertson-Irwin & Stovall, No. 1 Stuart, C SW SE sec. 10-25-37.
Moving in material.

Amerada Petroleum Corp. No. 2 Weir, C NW NW sec. 2-20-36.
Building rig.

Eddy County

Tex Patillo No. 2 Thompson, 300 ft. from N and E lines of sec. 1-20-28.
T.D. 510 ft.; hole junked; skidded rig; drlg. 82 ft.

Emperor Oil Co. No. 2 Puckett, C W½ NW NE sec. 24-17-31.
T.D. 3,933 ft. in lime, testing, flows 200 bbls. daily, by heads, into pits.

Barnsdall Oil Co. No. 3 Dodd, C SE NE sec. 22-17-29.
T.D. 2,836 ft.; cleaning out after shot.

Etz Bros. No. 1 State, C SE SW sec. 16-17s-30e.
T.D. 2,320 ft. in lime; acidized and testing.

T. J. Haley et al No. 1 Rose, C NE NE sec. 28-24-27.
Drlg. 2,323 ft.

D. & B. Oil Co. No. 1 Jenkins, C NW SW NW sec. 20-17-30.
Drilling plug, T.D. 3,000 ft.

Etz Bros. No. 2 State, C NW SW sec. 16-17-30.
Rigging up machine.

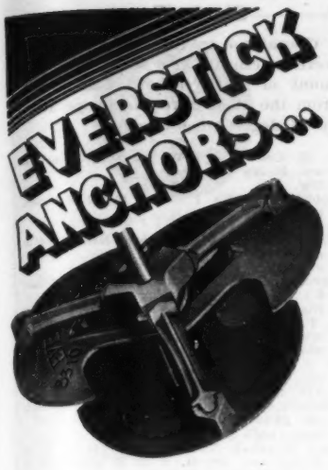
Premier Pet. Corp. No. 2 Dexter-E, NW SW NE sec. 20-17-30.
Building rig.

R. D. Compton No. 8 Brainard, 200 ft. from S and 545 ft. from E lines of SE¼ sec. 5-18-27.
Drilling at 300 ft.

F.W.&Y. Oil Co. No. 73 State, 330 ft. from N and 1,670 ft. from E lines SE¼ sec. 10-19-28.
Location.

Chaves County

Tannehill No. 2 Campbell, C NE SE sec. 1-11-25.
T.D. 696 ft.; fishing.



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NORTHWEST NEW MEXICO

Bernalillo County

Norine Realty Co., Inc., No. 1 Gallegas grant, SE SW NW sec. 19-11n-4e.
Drlg. 900 ft. gray and red shale.

Harding County

Khany et al No. 1 De Baca, C sec. 19-20n-31e.
Running 8¼-in. at 847 ft.; 10-in. at 250 ft. (first report).

McKinley County

Seward et al No. 1 State, NE SE NE sec. 2-19n-9w.
S.D. 460 ft. for approval of bond; 6⅝-in. at 418 ft.
Seward et al No. 1 fee, C NW SE sec. 35-20n-9w.
Drlg. 130 ft. in shale (first report).
Forth & Hickerson No. 2 Santa Fe, NE NW NE sec. 29-20-9w.
Drlg. 285 ft. in shale.
Montrose Oil & Gas Co. No. 1 State, NE NE sec. 28-20n-9w.
T.D. 570 ft.; missed shallow sand; may plug.
S. Dysart et al No. 1 Bouton, E NW NE sec. 14-4n-10w.
Old well drilled deeper; resumed at 1,365 ft.

Quay County

Quay County Dev. Co. No. 1 Wallace, SW SW SE sec. 19-9n-33e.
S.D. 816 ft.; rainbows at 814 ft.; show of salt water at 775 ft.

Rio Arriba County

El Vado Structure Properties Co., Ltd., No. 1 Tierra Amarilla grant, NE sec. 26-3s-1e (unsurveyed).

San Juan County

Jack Amenda No. 3, SW NW SW sec. 25-30n-12w.
S.D. 920 ft. for orders.
Jack Amenda No. 4 fee, NW NE SW sec. 25-30n-12w.
Drlg. 250 ft.
J. F. Cross et al No. 1 Wilson, SW SW SE sec. 17-30-11w.
S.D. 810 ft.
Continental Oil Co. No. 50 Tribal, NW NW SW NE sec. 2-29n-19w.
Completing at 735 ft.; flowed 56 bbls. in 19 hrs.
Cross & Pool No. 1 Aztec, sec. 1-30-11w.
Making water shutoff at 740 ft.
Nick Spatter No. 1 fee, C NE SW sec. 32-31-11w.
Running 6⅝-in. at 1,780 ft.
Southern Union Gas Co. No. 5 Government, C NE NE sec. 14-28n-11w.
S.D. 805 ft. for engine repairs (first report).

Torrance County

43 Pet. Co. No. 1 Greenfield, C NW SW sec. 17-9-8e.
Drlg. 1,350 ft.
Bruce Frazier No. 1 Frazier, SE sec. 12-2n-31e.
Drlg. 1,210 ft. in granite wash; water at 882-86 ft.

COLORADO

Adams County

Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64.
T.D. 4,134 ft.; filled back to straighten.
Riddle Pet. Co. No. 1 Baxter, C SW sec. 2-3s-6w.
S.D. 700 ft. for drill pipe.

Archuleta County

Wm. E. Hughes Est. No. 4 fee (unsurveyed), CSL SE SE sec. 24-33n-2e.
Drlg. 450 ft.
Wm. E. Hughes Est. No. 5 Gramps, 3E NW SE sec. 24-33n-2e (unsurveyed).
Spudded January 31.
Oil City Pet. Co. No. 1-A Garnett, NW NE NW sec. 25-33n-2e.
S.D. 1,515 ft.; top Dakota series 1,415 ft.
Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Rath, 220 ft. N of S line, 220 ft. W of E lines, Lot 4, sec. 24-33n-2e.
Rigged and waiting on orders.
K. L. Kendrick No. 1 Crowley (unsurveyed), sec. 2-32-1e.
Drlg.; 430 ft.; sulfur. wtr. in Dakota; Muddy dry.

Baca County

Paul Robb et al No. 1, NW NW NW sec. 24-32s-48w.
Derrick and pit, and wtr. well rig.

Boulder County

Leslie R. Steele et al No. 1 Maxwell, SW NE NW sec. 24-1n-71e.
T.D. 2,420 ft.; P.B. to 1,160 ft. to test oil show in Muddy.

Cheyenne County

Brittel Oil, Inc., No. 1 Seip, C NE SW sec. 26-12s-47w.
Steel derrick up; equipment on location; tentative spudding date February 25.

Jefferson County

Rainbow Oil Co. No. 1 Johnson, NE sec. 20-4s-68.
Derrick.
Ruby Hill O. & G. Co. No. 1 Braden, SE cor. sec. 24-4n-69.
S.D. 4,385 ft.

La Plata County

McGarr Pet. Co. No. 1 Pinton Mesa, CSL NE NE sec. 34-35n-12w.
S.D. 1,300 ft. for 10-in.

Larimer County

California Co. No. 1 State, SE SW NE sec. 6-11n-68w.
S.D. 2,530 ft.; frozen wtr. lines.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE sec. 7-17s-52.
S.D. 1,350 ft.

Morgan County

Swisher et al No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, sec. 3-4n-60.
S.D. 1,160 ft. for repairs.

Moffat County

Ohio Oil Co. No. 1 Robertson, C SW SW sec. 3-6n-92w.
Location.
Texas Co. No. 7 Knowlton, NE cor. Lot 8, sec. 10-4n-91w.
T.D. 3,956 ft.; fishing for 3-in. D.S.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE sec. 21-26n-17w.
T.D. 3,705 ft.; fishing for tools.

Park County

South Park Oil Co. No. 1 State, SE SE SW sec. 16-11s-75w.
Drlg. 3,736 ft., shale and shells; carrying 6¼-in. at 3,730 ft.

Prowers County

Trojan O. & G. Co. No. 1 Lotus Oil, NW NE NE sec. 15-22-4w.
T.D. 5,890 ft.; P.B. to 3,400 ft.; show for 25 bbls.; will acidize again.

Routt County

Mid-Colo Pet. Co. No. 1 Omholt, NE SE SE sec. 29-4n-87w.
S.D. 2,860 ft.; crew sick.

WYOMING

Albany County

California Co. No. 3 Hoist, 1,650 ft. W of E line and 970 ft. N of S line, sec. 13-17n-77w.
S.D. 1,959 ft. for wtr.

Big Horn County

J. W. Bales No. 1 Parker, C SW SW sec. 23-4-89.
S.D. 690 ft. for pipe.
Peter Evanoff et al No. 1 McAllister, Lot 4, NW NE SE sec. 35n-97w.
Drlg. 2,350 ft.
Kinney-Coastal Oil Co. No. 3 Government, SW NW NE sec. 24-56n-98w.
Drlg. 4,120 ft. in hard Embar lime.
Ohio Oil Co. No. 4 Byron Union, SW SW NE sec. 22-56-97.
Drlg. 5,309 ft.
Ohio Oil Co. No. 1 Lindsay, SW SW NE sec. 23-56-97w.
Drlg. 4,678 ft.
Montana-Wyoming Oil Co. No. 1 Allen, 270 ft. from N line, 936 ft. from E line, Lot 52 (SE NW SE) sec. 32-56n-97w.
T.D. 3,835 ft.; gas est. increased to 100,000,000 ft.; putting up additional boilers; trying to kill.
Peay Oil Co. No. 1 Denio, Tract 43-C, sec. 15-55n-97w.
T.D. 3,800 ft.; set 6¼-in. on bottom; W.O.C.
J. H. Shaffer No. 1 Keachie, C SW SW sec. 5-49-61.
T.D. 1,350 ft.; sidetracking tools at 1,366 ft.
W. O. Taylor et al No. 1 Hoskins, Lot 5 (SE SE) sec. 25-56n-97w.
T.D. 5,275 ft.; redrlg. at 4,850 ft.

Campbell County

G. J. Shiren et al No. 1, SW SW sec. 31-49n-74w.
Spudding.

Carbon County

Ohio Oil Co. and California Co. No. 1 Union Pacific, Acct. J, NE SW NW sec. 25-21-79w.
Prepare to complete; first Sundance at 5,259-5,300 ft.; second Sundance 5,381-5,472 ft.; both highly saturated with oil and gas; no wtr.
Ohio Oil Co. and California Co. No. 2 Union Pacific, C NE NE sec. 35-21n-79w.
Location.
Ohio Oil Co. No. 8 Harrison & Cooper, CWL W½ SW sec. 35-20-78w.
T.D. 3,030 ft.; fishing for drill pipe.
Ohio Oil Co. No. 3 H. & C., NW NW SW sec. 35-20n-78w.
Prepare to complete in upper Sundance; T.D. 3,225 ft.
General Pet. Corp. No. 1 Whitford, SW SE SE sec. 24-20-84.
T.D. 6,482 ft.; P.B. to 6,400 ft. to test upper Sundance.
Shirley-Wyoming Oil Co. No. 1 Government, NW NE sec. 2-26n-89w.
S.D. 1,350 ft.; wtr. in top of Sundance at 1,310-12 ft.
Union Oil Co. of California and Mutual Oil Synd. No. 1 Union Pacific, 1,890 ft. from E line and 1,320 ft. from S line, sec. 1-18-78w.
Drlg. 4,618 ft.

Converse County

John Ackart No. 1 Daniels, SW SW SE sec. 17-32-71.
S.D. 4,004 ft.

Hot Springs County

California Exploration Co. No. 2 Government, NW SW NW sec. 4-44-96.
T.D. 4,245 ft.; recmtng. 8⅝-in. at 3,280 ft.
Ohio Oil Co. No. 73 Mill Iron Cattle Co.

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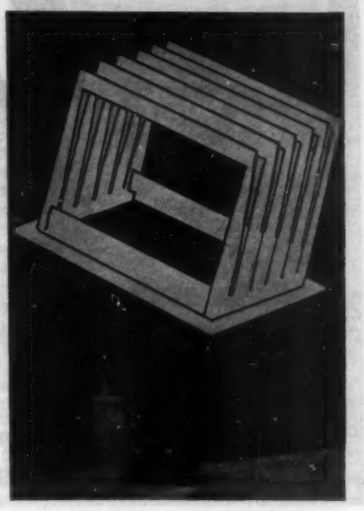

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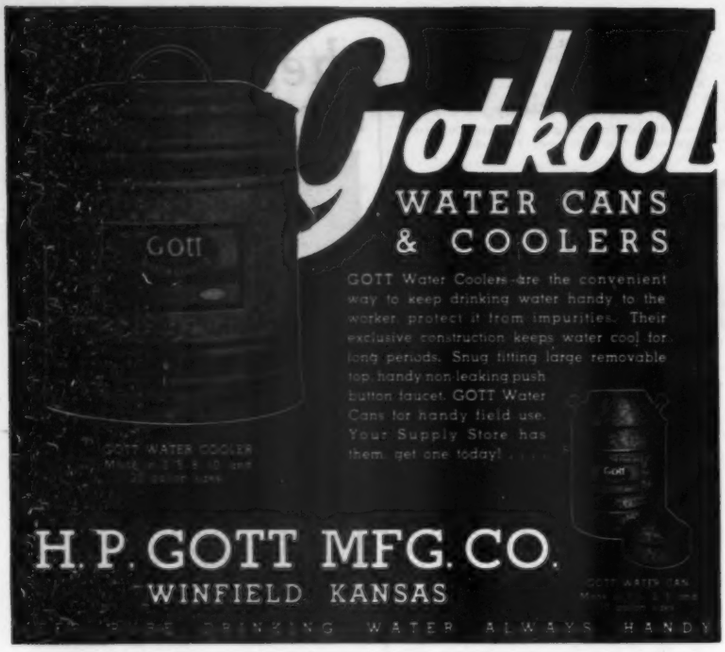
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NE SW SE sec. 19-46n-98w.
Cellar.
Stanolind O. & G. Co. No. 20 State-Ridgely, SE NE SE sec. 19-46n-98w.
T.D. 2,492 ft.; trying to get circulation.

Lincoln County

Senrab Oil Corp. No. 2 Government, CSL SE NW sec. 10-26n-113w.
S.D. 1,020 ft.

Natrona County

Empire State Oil Co. No. 15, NW SE NE sec. 11-33n-83w.
Spudded and S. D. account of weather.

Niobrara County

Argon Oil Co. No. 6 Elliott, C SE NW sec. 5-35n-63w.
Rigging up rotary.
Black Hills Ref. Co. No. 1 Mills Est., C SW NW sec. 27-36n-64w.
Spudded and S.D. account of weather.
J. H. Huber Co. No. 1 Jones, NE SE NW sec. 6-35n-65w.
T.D. 4,096 ft.; P.B. to 4,032 ft.; running 2-in. tubing and R.U. for pump test.
Ohio Oil Co. No. 6 Converse Sheep, 610 ft. from E line and 580 ft. from S line, SW SE sec. 32-36n-65w.
Cmtd. 7-in. at 3,715 ft.; drlg. plug.
Ohio Oil Co. No. 5 Converse Sheep, C SE SW sec. 32-36n-65w.
Rig up.
S. & H. Dev. Co. No. 1-A Olinger, SE NE NW sec. 1-36-63.
S.D. 1,674 ft.

Uinta County

Intermountain Pet. Corp. of Utah No. 1 Union Pacific-Haynes, SW NW SW sec. 24-19n-118w.
Drlg. 1,575 ft.
W. D. Marshall No. 1 Government, NW SW SE sec. 12-15n-118w.
Drlg. 1,116 ft.

Washakie County

Ariton & Doyle No. 1 Government, SW SW SE sec. 29-48-91w.
S.D. 1,115 ft.
Wyoming O. & R. Co. No. 2 Government, SW SW SW sec. 31-48-90.
T.D. 1,404 ft. (cor.); fishing for tools.

MONTANA

Montana production for 1935, as reported by the State Oil Conservation Board, was as follows:

	Bbls.
Kevin and Border	1,425,846
Cut Bank	2,323,141
Cat Creek	292,750
Pondera	431,233
Others	1,784
Total	4,599,132
In storage Jan. 1, 1935	1,096,033
Production and storage	5,695,165
Refined in Montana	1,805,294
Used for fuel or lost	10,993
Shipped to Canada	2,796,701
Shipped to Wyoming	8,016
Shipped to unknown destinations	29,627
Total	4,648,631
In storage Dec. 31, 1935	1,046,534

Oil imported from Wyoming included 34,124 bbls. in storage on January 1; receipts at Montana refineries, 1,697,294 bbls.; refined, lost, etc., 1,706,226 bbls.; in storage December 31, 25,192 bbls.

Big Horn County

One completion, which is also a first report, was made in the Hardin gas field in Lou Torske No. 1, NE SE section 19-1s-33, which made 200,000 feet initial at a total depth of 665 feet. The gas is marketed in the town of Hardin.

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e.
S.D. 3,000 ft. after setting 6¼-in. at 2,895 ft. and drilling plug.

Fallon County

Montana-Dakota Utilities Co. No. 1, NE NW sec. 17-3n-62e.
T.D. 6,349 ft.; fishing for bit.

Fergus County

E. A. Fenholt No. 1, SE NW SW sec. 24-21n-17e.
Drlg. 110 ft.
Judith Operating Co. No. 1 Government, C SW SW sec. 26-22n-17e.
S.D. 1,052 ft. (cor.).
Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-21n-18e.
Drlg. 483 ft. in Eagle formation; show of gas in top at 452 ft.

Gallatin County

Ben W. Ryan No. 1 Tice, NE NE NE sec. 28-1n-2e.
S.D. 2,572 ft. (cor.).

Garfield County

West Dome Oil Co. No. 1, SW SE NE sec. 9-15n-29e.
Drlg. 500 ft.; (first report).

Glacier County

Operations in the Cut Bank field were practically at a standstill on account of the weather. Last report from the field gave the temperature at 38 degrees below zero.

A. B. Cobb No. 5 Walberger, C NE NE sec. 35-35n-6w.
Rig.
Cobb-Pardee No. 1 Stufft, C SE NW sec. 25-36n-6w.
S.D. 732 ft.
Cobb-Reagon No. 1 Jackson, NE NW NW sec. 5-32n-5w.
S.D. 2,200 ft.
Gardner et al No. 1 Cole, C SE NW sec. 2-32n-6w.
Rigged; W.O. engine.
L. P. Jackson et al No. 1 Tribal, NW SE NW sec. 33-34n-7w.
Ready to spud.
R. C. Jeffries No. 4 Lukens, NE NE NE sec. 12-33n-6w.
S.D. 2,610 ft.
Kincheloe-Hanlon No. 1 State, SE SE SE sec. 25-33n-6w.
Drlg. 1,875 ft.
Jack Marshall No. 1 Tribal, 140 ft. S of N line and 200 ft. E of W line, Lot 7, sec. 7-32n-5w.
Running 7-in. at 2,870 ft.; cored slightly saturated sand at 2,872-83 ft.
McCabe & Jeffries No. 1 Rasmussen, NE SW NE sec. 32-33n-5w.
Cmtd. 7-in. at 2,852 ft. and S.D.
Montana Power Gas Co. No. 1 Simero, C SE SE sec. 30-34n-5w.
S.D. 2,260 ft.
Montana Power Gas Co. No. 2 Whetstone, S SW NE sec. 8-33n-5w.
S.D. 2,350 ft.
Nadeau Bros. No. 1 Tribal, C Lot 4, sec. 6-32n-5w.
Drlg. 2,800 ft.
Neil Spencer No. 1 Tweedy, CSL SE SW sec. 25-33n-6w.
Drlg. 2,945 ft.
Santa Rita O. & G. Co. No. 6 Tribal, 660 ft. S of C W line, sec. 15-35n-6w.
Building rig (first report).
Santa Rita O. & G. Co. No. 1 Shearon, 660 ft. S of N line and 349 ft. W of E line, sec. 34-36n-6w.
S.D. 2,725 ft.
Santa Rita O. & G. Co. No. 1 Corey, NE NW SE sec. 5-32n-5w.
S.D. 2,959 ft. for spudder.
R. C. Tarrant No. 6 Britton, C SE SW sec. 12-34n-6w.
S.D. rig.
R. C. Tarrant No. 5 Getty, NW NW SW sec. 2-34n-6w.
S.D. 2,440 ft.
R. C. Tarrant No. 2 State, C NE SE sec. 36-34n-6w.
S.D. 750 ft.
R. C. Tarrant No. 7 Haglund, Jr., C SW SW sec. 13-34n-6w.
Standing rigged.
Texas Co. No. 5 fee, 660 ft. N of SW cor. sec. 15-35n-6w.
Building derrick.
Texas Co. No. 1 Walker, C NE NE sec. 2-35n-6w.
T.D. 2,585 ft.; fishing for baller.
Texas Co. No. 1 Tribal, Lot 4, 1,300 ft. from W line, 200 ft. from S line, sec. 2-33n-5w.
Building road.
Wilkerson et al No. 1 Tribal, SW SE NE sec. 31-33n-5w.
Drlg. 1,440 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15e.
S.D. 446 ft.

Liberty County

The Western Natural Gas Co. No. 1 Turner, C SE section 15-37-4e, in the Whitlash gas field, was drilled to 2,118 feet and plugged back and completed in sand at 1,635-40 feet for 1,500,000 feet. This was the only operation drilling in the county.

Pondera County

Wm. M. Fulton No. 1 Price, SW NE NE sec. 18-27n-4w.
Drlg. 300 ft.
Norden Corp., Ltd., No. 1 Hollan, NW SW NW sec. 12-28n-6w.
Drlg. 638 ft.

Teton County

Teton Oil Co. No. 1 Reickhoff, C NE SW sec. 14-24n-5w.
Drlg. 2,190 ft.

Toole County

T. H. Harriman's No. 1 Beaupre, SW SW SW sec. 5-35n-2w.
Rigging (first report).

UTAH

Grand County

Columbia Crude Co. No. 1 Rath, SW SE sec. 12-25n-20e.
S.D. 135 ft. (corrected).
Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22n-22e.
Drlg. 1,945 ft.
Glenn Ruby et al No. 1 State, NE SE SE sec. 34-31s-16e.
T.D. 600 ft.; underreaming 10-in. to seal off water and gas; show live oil 205 ft.

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Among Gulf Coast Drilling Contractors

In the extreme southern part of Brazoria County around the salt marshes of the Gulf of Mexico, Noble Drilling Co. is moving in a rig to drill one of the most remote wildcats ever drilled on the Gulf Coast. The well which is being drilled for the Strake Petroleum, Inc., on the Poole tract in the Harding Survey, is accessible by a board roadway built from the main highway to a special built dock on the Intra-Coastal Canal. From this dock material and the rig were barged down the canal approximately 6 miles to other docks where another board road, about 1½ miles in length leads to the location. Fuel oil will be pumped from the second dock through a pipe line which has been laid to the location. The test is scheduled to be drilled to 9,500 feet, provided no oil or gas sands are encountered at shallower depth. At Turtle Bay in Chambers County for Stanolind Oil & Gas Co., No. 1 Cooper is being recompleted and No. 2 State, located out in the waters of the bay, has been spudded.

Glenn McCarthy is drilling ahead on his No. 1 Longe, located in the new Amelia field in Jefferson County and has completed No. 6 White in the Anahuac field for Humble Oil & Refining Co. and is ready to spud No. 7 White. For Harlyn Oil Corp. surface casing has been cemented at 800 feet on No. 1 Harris County Houston Ship Channel, located east of Houston in the Richard and Robert Vince Survey.

Nicklos Drilling Co. is preparing to complete No. 1 D. J. Miller at the Tepetate field in Acadia Parish, Louisiana. It is bottomed in oil sand at a total depth of 8,325 feet and 7-inch casing was cemented on bottom. The rig will be moved to another location after the well is completed.

Talbot Drilling Co. abandoned the wildcat test of Bradley and others No. 1 Trinity County Timber Co., located near New Waverly in Walker County. The total depth was 3,820 feet.

Rutherford Drilling Co. has four rigs running, three of which are located in the Bay City for Skelly Oil Co. and the other is at the Placedo field for American Liberty Oil Co. At Bay City, No. 1 Metzger is drilling below 4,706 feet, No. 5-B Cobb is below 4,800 feet and No. 5-B Cobb will be spudded during the week. At Placedo surface casing has been cemented on No. 3 Gray at 825 feet.

Smith & McDannald are moving in rigs to two new locations. In the East Texas field, No. 14 Shaw is to be drilled for the Tide Water Oil Co. while in Jefferson County No. 1 Grinnell is to be drilled for Bishop and others. Eight other rigs are located as follows: One at Louise for Pure Oil Co., one at St. Martinsville for Tide Water Oil Co., two at South Houston for Stanolind Oil & Gas Co., one at Hastings for the same company, one in Calcasieu Parish, Louisiana, for A. G. Oliphant, one at Long Lake for Tide Water Oil Co. and one at Big Hill for the Stanolind Oil & Gas Co.

Loffland Brothers are completing No. 1 C. Miller in the Tepetate field for Continental Oil Co. which is bottomed in oil sand at 8,312 feet. For the same company at Seadrift in Calhoun County, the third string of casing is to be set in No. 2-A Moody after drilling to 9,087 feet. At Matagorda County for the same company, the progress on No. 1 Fief is being held up due to a fishing job.

Edwards Drilling Co. has spudded No. 3 Maco Stewart in the Dickinson field for the Coast Petroleum Co. and will cement surface casing at around 2,000 feet. In the Jefferson Island field in Iberia Parish, Louisiana, Jefferson Lake Oil Co. No. 274 Lake Pigneur is coring in shale below 8,440 feet after the original hole was plugged back from 8,545 feet and sidetracked at 8,363 feet.

L. W. Capps is preparing to plug back and sidetrack the second time on J. K. Lewis No. 1 Locke-Moore Lumber Co. located in Jefferson Davis Parish, Louisiana. The hole

(Continued on Page 75)

J. G. Dyer, drilling and production superintendent for the Continental Oil Co. east of the Rocky Mountains, and Dude Camden, toolpusher for Loffland Brothers, on location at Continental Oil Co. No. 2-A Moody, in Calhoun County, Texas

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- Increasing Production
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Eastern Field Report

By STAFF CORRESPONDENT

WEST VIRGINIA COMPLETION IN ORISKANY SAND IS SMALL

PITTSBURGH, Pa., Feb. 17.—Thirteen operations were completed in the lower Eastern fields during the week of which one was dry, six were gas wells, and six were producers with an initial production of 249 bbls. a day. Completions and new work are still being retarded by the cold weather and icy condition of the country. Some new work is under way.

In Kanawha County, West Virginia, one Oriskany test was completed but it is small. In Loudin district, about a mile and a quarter southwest of the town of Malden, Columbian Carbon Co. completed its test on the S. H. Hoge farm at a depth of 4,980 feet. It is a gas well gauging about 260,000 feet a day from the Shale and the Oriskany sand. The Oriskany sand was extremely hard and did not have a large volume of gas. The Shale will be shot and probably the Oriskany sand.

In this district, H. C. Zogg and others have reached 4,100 feet on the R. H. Dunn farm. United Carbon Co. is rigging up on the C. C. Dickinson farm. Godfrey L. Cabot, Inc., has plugged No. 2 Kanawha Land Co. and is building a rig on a new location after the hole was lost with an unsuccessful fishing job.

In Malden district, Kanawha County, there is one new location. United Carbon Co. has made a location on the J. Q. Dickinson farm just north of the Campbells Creek Coal Co. No. 8. Here, Godfrey L. Cabot, Inc., has reached the Corniferous lime on the N. B. Tompkins farm. The lime is about 100 feet above the Oriskany sand. This operator is down 4,185 feet on the William B. Tompkins farm and is still shut down with a fishing job at 1,870 feet on the W. D. Lewis farm.

In Elk district, Kanawha County, Columbian Carbon Co. has a fishing job at 3,100 feet on the W. H. Baxter and others lease west of Coopers Creek. Its test on the M. M. Robertson farm is drilling at 850 feet and on the G. and D. Copenhaver farm 1,800 feet in No. 3 and 3,400 feet in No. 4.

In Union district, no new tests have been started. In Poca district, W. O. Zeibold and others have reached 2,800 feet in the deep test on the D. A. Griffith farm.

SOUTHEAST OHIO

Three producers and two gas wells were completed in Southeast Ohio, one of which added to the new development in Licking County. In the NE quarter of section 17, Hanover Township, Hope Construction & Refining Co. completed a second test on the Jesse Cartnal farm in the Clinton sand at a depth of 3,099 feet. It produced 130 bbls. the first day after shot.

In Knox County, Upham Gas Co. completed a test on the Royal Staats farm in section 22, Union Township, in the Clinton sand at a depth of 2,908 feet. It produced 70 bbls. the first day natural, increased slightly by shot.

In Clay Township, Knox County, Strel C. Brown and others completed a test on the A. L. Rine farm, section 14, in the Berea sand at a depth of 706 feet. It shows for a 5-bbl. pumper. In Morgan Township, Davis, Stout and others drilled a test on the David McCullick farm in the lime at a depth of 1,795 feet, gauging 50,000 feet a day.

In Perry County, Wehrle Co. completed a test on the Homer Beard farm in the SE half of section 36, Thorn Township, in the Clinton sand, total depth 2,889 feet, gauging 100,000 feet a day.

SOUTHWEST PENNSYLVANIA

There were three gas wells completed and on producers. In Gilmore Township, Greene County, Johnson and Eddy completed No. 3 Charles Fordyce at a total depth of 2,917 feet. The top of the Fifty Foot sand was at 2,890 feet with gas at 2,917 feet having a volume of 134,000 feet a day.

In Springhill Township, Greene County, Herrods Run Oil & Gas Co. drilled No. 1 A. J. Dye deeper. Drilling started at 3,267 feet. The Fourth sand was at 3,314-58 feet with 157,000 feet of gas showing at 3,344-46 feet. Total depth was 3,494 feet.

In Aleppo Township, Greene County, Guy B. Patterson drilled No. 1 John Wise to 3,088 feet. The Pittsburgh Coal was at 907 feet; the First Salt sand at 1,655-99 feet with gas at 1,690 feet; the Maxon sand at 1,960-2,010 feet with gas at 1,972 feet; the Fourth sand at 3,022-32 feet with gas at 3,024-26 feet. The total volume is 220,000 feet a day.

In Richhill Township, Greene County, Manufacturers Light & Heat Co. is drilling at 1,350 feet on the S. S. Leslie farm. In Aleppo Township, Guy B. Patterson is down 2,200 feet on the W. H. Courtwright farm. In Springhill Township, James H. Null, Agent, is down 1,725 feet in No. 3 David Null and is having trouble with caving. In Perry Township, Peoples Natural Gas Co. is fishing for tools at 2,145 feet.

In Amwell Township, Washington County, A. V. Lewis and others' test on the George Thomas farm reported last week as over a 1,000,000-foot gas well declined to about 300,000 feet a day and the hole was deepened to 2,934 feet. Foley and Fox are drilling at 2,450 feet on the Fred Thomas farm. Union Gasoline & Oil Corp. has reached 1,240 feet on the McClenathan farm and completed the rig on the Thomas Bebout farm. More locations are being made in this township.

In South Strabane Township, Washington County, Victor D. Behm & Co. are drilling at 250 feet on the William Paul & Son farm. In South Franklin Township, William Bungard & Co. are down 2,100 feet on the Clyde Hinerman farm. H. G. Whitfield has resumed drilling on the Judson Iams farm and has reached 557 feet. The Pittsburgh Coal was at 551 feet. E. H. and J. B. Tague remain shut down at 2,442 feet on the Hiram McClain farm.

In East Finley Township, Washington County, Parkinson and Dague resumed drilling on the Chris Ealy farm. Top of the Big Injun sand was at 1,893 feet with about 100,000 feet of gas showing at 2,000-10 feet. The depth is now 2,040 feet.

The deep test of William Snee and others on the Summit Hotel property on Chestnut Ridge in South Union Township, Fayette County, is again drilling and has reached 6,003 feet. The Tully lime is believed to have been reached at 5,990 feet which will place the Oriskany about 500 feet deeper.

WEST VIRGINIA

Three producers were completed in West Virginia, the largest being in Wetzel County. In Church district, Maxon Oil & Gas Co. completed a second test on the E. F. Huffman farm in the Maxon sand at a total depth of 2,171 feet, showing for 30 bbls. a day. The Pittsburgh Coal was at 980-988 feet; the Maxon sand at 2,152-56 feet.

In Pleasants County, Ritcheyville Oil & Gas Co. completed a test on the A. J. Matheny farm in Jefferson district in the Berea Grit at a depth of 1,906 feet. It is a 2-bbl. pumper after shot.

In Wood County, Wamsley Oil & Gas Co. drilled its gas well on the W. B. and Jessie L. Wamsley farm in Union district to the Maxon sand at 1,651 feet. It will make a 2-bbl. pumper.

In Roane County, Harry Anderson and others drilled a test on the J. N. C. Roberts farm in Curtis district through the Salt sand to 1,699 feet and it was dry and abandoned.

Other Operations

In Boone County, E. R. Cameron has started drilling deeper No. 3 George P. Alderson on Sugar Camp Branch of Horse Creek in Scott district. United Fuel Gas Co. has started drilling No. 4,582 Horse Creek Coal Land Co. in this district. It is now at 950 feet. In Washington district, no progress was made in the deep test on the Cole and Crane lease. Owens Illinois Glass Co. is cleaning out No. 3 J. G. Roberts after shot and before test. In Sherman district, Pure Oil Co. is down 2,232 feet in No. 41 L. R. and P. and 1,044 feet in No. 80 Federal Coal Co.

In Cabell County, National Gas Co. has started drilling on the F. L. Whitaker farm in Guyandotte district, on the Right Fork of Four Pole Creek. Merrits Creek Gas Co. has rigged up on the David Gideon farm. In McComas district, Swanson and others have a location on the Homer Woodal farm. W. C. Kingery and others are down 1,200 feet in the Sarah E. Midkiff second test. Kanawha West Virginia Gas Co. has reached 2,289 feet on the Albert Keenan farm and 1,487 feet on the R. N. Heath farm. Pridemore and Adkins are drilling at 1,250 feet on the Lucas Heirs farm. West Virginia Gas Co. is down 1,300 feet in No. 4 John J. Porter and rigging up No. 3 Empire State Gas Co. is down 1,950 feet on the Fay Savage test.

There was little change in Calhoun County. In Lee district, Lyle S. Ayers started drilling on the Ray Parson farm. In Sherman district, K. M. Hunt and others are drilling at 525 feet on the Brad Gainer farm, a test, and F. F. McIntosh is down 1,290 feet on the Charles Poling farm.

In Clay County, Virginian Gasoline & Oil Corp. has started drilling both Nos. 32 and 33 on the Brown, Swan, Goshorn and Geary farm in Henry district.

In Gilmer County, Hope Construction & Refining Co. has started drilling deeper No. 1 J. W. Boggs in Center district. It was a former Injun sand well. In DeKalb district, E. D. Norman and others are down 1,550 feet on the Everett Collins farm.

In Fayette County, Godfrey L. Cabot, Inc., has made a location for No. 7 Kanawha Gauley Coal Co. in Falls district. In Raleigh County, this operator has reached 2,008 feet in No. 10 Beaver Coal Co. in Slab Fork district.

In Lincoln County, Big Laurel Gas Co. is drilling at 1,500 feet on the Calloway Plumley farm in Union district. In Logan County, Boone County Coal Co. is down 1,232 feet in No. 6 on its own property in Logan district. Zeibold, Rummel and others are drilling by the tools on the George Nichols farm.

Resumption of work in Pleasants County and in Ritchie County has been slow since the heavy snows and cold weather. In Murphy district, Ritchie County, Evelyn Oil & Gas Co. has resumed drilling on the U. G. Barnett farm and reached 1,750 feet. H. N. Rinehart has resumed and reached 1,600 feet on the H. N. Rinehart farm.

In Buchanan County, Virginia, Godfrey L. Cabot, Inc., is drilling on the National Shawmutt Bank lease at 4,004 feet.

California Field Report

By L. P. STOCKMAN

GOAL OF 537,000 BARRELS PER DAY IS FAR FROM ATTAINMENT

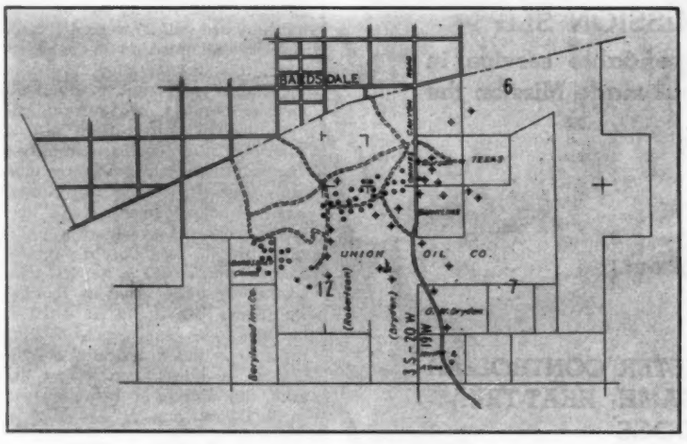
LOS ANGELES, Calif., Feb. 15.—California operators have been rather dilatory in conforming with the crude oil curtailment program which became effective February 10 and, consequently, the outcome of this attempt to reduce state production to 537,000 bbls. per day is still in doubt. The state averaged 584,500 bbls. a day during the week ended today. The projected increase in the posted price of crude oil is still some distance off, although a last minute concerted attempt to secure compliance with the provisions of the proration program has been started. If the goal is reached in the near future, buyers of crude oil will not lose any time in advancing crude oil prices. Practically all major operators were down to or below their respective allowable before the new curtailment program went into effect on February 10, and chairmen in the various fields are now confronted with the problem of inducing independent operators to curtail sufficiently to reduce state production to the established quota and thus make the new price schedule effective as soon as possible.

The outlook is not any too promising, however, despite the fact that state production has been reduced approximately 125,000 bbls. per day within a period of 30 days, because the final curtailment, about 25,000 bbls. per day, is the most difficult to secure.

Future Allowable

The survey conducted a month or so ago by a committee consisting of representatives of the larger companies and several representing independent operators indicated a probable demand of 537,000 bbls. per day during the current year. This survey reflected the commitment of every marketer in the state and was as complete and accurate as could be. It seems highly probable that the demand for crude oil will fluctuate as it has consistently done in the past and that the demand during the forthcoming summer will be substantially in excess of what now appears to be the indicated demand of 537,000 bbls. per day. In addition to this seasonable increase, it is also logical to assume that spot cargoes will be moved from time to time. The likelihood of picking up any large number of spot cargoes is undoubtedly less than it was a year ago as the Standard Oil Co. of New Jersey recently closed its California office and other eastern buyers have also shown a lessening degree of interest in California. This undoubtedly reflects the inability of eastern marketers to purchase refined oil in California low enough to justify intercoastal shipments for domestic consumption. The Sun Oil Co., James B. Berry interests and eastern affiliates of California companies will probably increase their purchase commitments by making spot purchases of refined oil in California before the current year draws to a close. With this in mind, California buyers should be able later to justify an increase in the allowable daily crude oil production, in which event independent producers would benefit very materially. Independent operators would sustain a smaller income during the next three months but with the allowable daily production stepped up during June, July, August and September the smaller income during the next three months would be offset by a substantially higher income during the period of peak production as a result of a higher allowable daily production and a price considerably in excess of that prevailing at the present time.

Wildcat exploration, and development work in proven oil fields, is expected to continue at a high rate in California, but on the other hand, drilling operations in the several dry-gas fields of the state will be substantially lower than last year. This decreased development work reflects the inability of the gas fields to go on a commercial production basis during the present winter season. Climatic conditions in California and the substantial production of natural gas from oil fields have been such that production of dry gas from gas fields has been reduced to a minimum during the past three months. The Buttonwillow gas field of Kern County, due to a contract which has priority right since the discovery of this field was primarily instrumental in the construction of the Pacific Gas & Electric Co. natural gas transmission line from San Francisco to Buttonwillow, has been producing a limited quantity of dry gas for the past several months. The Tracy gas field, located in San Joaquin County, has also been producing a limited quantity of dry gas for commercial consumption during the past several months and will probably continue to produce a limited amount during 1936. The proximity of the Tracy gas field, discovered by the Amerada Petroleum Corp., to the San Francisco Bay region gives this area a big advantage due to the relatively short distance between the point of production and consumption.



Dryden area in Ventura County

The Amerada Petroleum Corp. completed its fifth gas well in the Tracy gas field when No. 4 F.L.D. in section 15-2-5, was brought in flowing 28,000,000 feet per day. This new well was bottomed at 4,050 feet and finished with a 6⅝-inch liner carrying 82 feet of perforations. The 8⅝-inch water string was landed and cemented at 3,972 feet. The company staked location for No. 5 F.L.D., which will be drilled 1,373 feet north and 2,543 feet east of SW cor. of section 15-2-5. The Pure Oil Co., which with additional development may prove up the existence of a new gas field in the Chowchilla area of Madera County, put its No. 2 Chowchilla on a production test early in the week, but it was good for only 3,000,000 feet of dry gas per day. This well was bottomed at 5,592 feet, but was plugged back to 2,606 feet and finished with a 6⅝-inch perforated liner. The deep gas zone in this area does not appear commercially productive under present conditions, but this new shallow zone may subsequently be found to be of more importance than is evident at the present time. In the Delano gas field of Kern County the Standard Oil Co. has completed No. 3 Widgeon in section 1-25-23 and this new well was brought in flowing 5,500,000 feet of gas per day. No. 3 Widgeon was bottomed at 4,130 feet, but was redrilled to 3,243 feet, at which point the company ran in a 6⅝-inch liner including 32 feet of perforated and conducted a production test with the results just noted. In the Buena Vista Lake district of Kern County, where the Ohio Oil Co. has proved up the existence of a new dry gas field, preparations are being made to make an early production test on No. 5-A on the Kern County Land Co. lease in section 31-31-26.

Mountain View

Operators in the Mountain View field of Kern County put three wells on production during the past week but none of them registered large production. This is evidence that the Mountain View field is losing its kick due to the failure of operators to inject surplus gas back into the productive formation. The Gilmore-Snyder Oil Co. No. 4 Mullaney in section 24-30-28 was good for only 242 bbls. of

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	February 2		January 26			
Intercoastal-domestic:	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Diesel and gas oil	.....	.....	.....	.....	.....	235,544
Gasoline	174,085	24,869	.....	.....	637,915	606,133
Kerosene	.....	.....	75,987	10,855	228,486	78,460
Foreign exports:						
Crude oil	132,695	18,956	115,205	16,458	596,285	840,830
Fuel oil	151,674	21,668	245,305	35,044	1,219,867	1,064,067
Diesel and gas oil	37,807	5,401	68,469	9,781	309,922	294,531
Gasoline	170,355	24,336	.....	.....	591,837	229,328
Kerosene	1,471	210	.....	.....	23,406	150,561
Coastwise-domestic:						
Crude oil	122,591	17,513	.....	.....	554,557	597,914
Fuel oil	282,303	40,329	197,960	28,280	958,609	1,204,846
Diesel and gas oil	80,074	11,439	.....	.....	178,088	68,635
Gasoline	260,606	37,229	157,381	22,483	1,265,342	674,111
Kerosene	32,379	4,626	4,477	640	47,852	23,714

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	.....	78,075
Lubricants	.....	.....	.....	.....	.....	4,005
Foreign exports:						
Crude oil	.....	.....	.....	.....	192,079	168,624
Fuel oil	78,220	11,174	21,410	3,059	137,440	105,479
Diesel and gas oil	.....	.....	.....	.....	.....	74,557
Gasoline	289,645	41,378	58,222	8,317	453,065	293,495
Kerosene	10,789	1,541	15,889	2,270	26,678	42,139
Lubricants	4,032	576	.....	.....	14,343	19,413
Coastwise-domestic:						
Fuel oil	.....	.....	139,311	19,902	611,355	308,708
Diesel and gas oil	.....	.....	41,963	5,995	60,935	10,490
Gasoline	115,841	16,549	126,108	18,017	339,790	338,235
Kerosene	.....	.....	2,416	345	15,699	.....

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32.5 gravity oil per day upon completion. It was finished at 5,332 feet but was plugged back to 5,232 feet and finished with a 6⅝-inch liner carrying 115 feet of perforated. O'Kane & Brain No. 2 Wright-Bloemer, which was given a preliminary production test last week on an open line, was completed, flowing 618 bbls. of clean 32.3 gravity oil per day at 5,922 feet. It has perforations in the 6⅝-inch liner at 5,490-5,615 feet and at 5,854-5,922 feet and was cemented through perforations at 5,854 feet. The National Oil Co. recompleted its No. 1 Cowan in the Mountain View field several days ago after redrilling and deepening the hole to 5,893 feet and returned it to production flowing 580 bbls. of 29.9 gravity oil per day. This well was finished with a 5-inch liner including 200 feet of perforated landed in the bottom of the hole. Above the 5-inch the company landed a 6⅝-inch liner caryirng perforations at 5,410-45 feet and at 5,470-5,693 feet. Production of the Mountain View field is being maintained by aggressive drilling and in as much as there are still 20 wells drilling and several scheduled to be spudded in soon, this district should be able to maintain its current production for another 60 days. Any substantial decline in drilling operations will, however, result in a decrease in daily production. During the past three months a number of operators in this field have found it necessary to deepen wells from the upper to the lower zone in order to maintain production. The Standard Oil Co. No. 1 Garcia in section 13-30-29 picked up the top of the Santa Margarita at 4,195 feet, but the zone usually present in this formation was practically absent as it contained less than 2 feet of oil sand and drilling operations were accordingly continued.

Kettleman Hills

Two wells were completed in the Kettleman North Dome field and a check of development work under way indicates the probable completion of several additional potential producers in the immediate future. In section 29-21-17, the Standard Oil Co. completed No. 23-29-J, flowing 1,630 bbls. of clean 37.2 gravity oil per day. It was bottomed at 8,568 feet and finished with a 5¾-inch perforated liner and a 7-inch water string landed and cemented at 8,175 feet. The Kettleman North Dome Association No. 21-32-J in section 32-21-17 was brought in flowing 1,160 bbls. of exceptionally clean 37.2 gravity oil and 450,000 feet natural gas per day. This well was bottomed at 8,835 feet, but plugged back to 8,351 feet previous to completion. The next completion scheduled to be finished in the Kettleman North Dome field is Kenda No. 21-28-J, but this well should be followed into production within a short time by the Association No. 47-20-J, No. 43-28-J and No. 85-28-J as this trio of new wells is standing cemented on top of the pay.

Petroleum Securities will resume drilling operations in No. 1 Burbank in the Kettleman Middle Dome field and efforts of the company to recover the fish which prevented completion a few years ago will be watched with considerable interest. It appears quite probable that the company will be able to complete No. 1 Burbank as a commercial producer if the existing mechanical difficulties can be overcome. The Kettleman Middle Dome field went on a partial production basis last month following a period of several months during which the Standard and Petroleum Securities suspended production activities in order to improve operation of the Standard's natural gasoline plant. The Standard Oil Co. recently resumed work on No. 38-29-V and the company is endeavoring to finish this well, which has been plugged back from 7,885 feet to 7,625 feet due to bottom water and minor mechanical trouble. The Union Oil Co. is plugging back No. 1 Willis-Welsh and perforating the 6⅝-inch at frequent intervals. The 6⅝-inch casing, which was landed and cemented some time ago at 10,813 feet, is being perforated with a Lane-Wells gun perforator.

Fruitvale

The Fruitvale field of Kern County is showing a slight revival of drilling due to operations of the Western Gulf, Standard Oil Co., Dixie-Lee Oil Co., Elliott Core Drilling Co., General Petroleum, Harrison Oil Co. and the Texas Co. During the current week the General Petroleum completed No. 2 Hensley and this new well, located in section 22-29-27, was brought in doing 251 bbls. of 22.6 gravity oil per day. Production was cutting approximately 30 per cent late in the week but is cleaning up in good shape coincident with an increasing tendency in production. This new well was bottomed at 3,898 feet and finished with a 6⅝-inch liner including 268 feet of 120-mesh screen. The Western Gulf, which recently erected a rig for No. 2 Red Ribbon in section 27-29-27, is expected to complete Nos. 18 and 19 on lease B of the Kern County Land Co. within the next week and the crew from one of these wells will be moved over to No. 20-B, which is at the present time being rigged up preparatory to an early spud.

The Barnsdall Oil Co. completed its production test on No. 1 Caldwell, a recent completion in the Round Mountain field of Kern County, and this new well showed a potential daily production of 348 bbls. of clean 16.1 gravity oil initially from 1,642 feet. Barnsdall has already spudded in No. 2 Caldwell and has a rig in course of construction for No. 3. The California Western Oil Co. will probably have its second well, in section 7-28-29, tanking oil within the next few days.

In the Midway-Sunset field of Kern County the Alford Oil Co. has officially completed its No. 3 Fried and this new well was given a potential rating of 251 bbls. per day from 2,765 feet. There are a number of potential producers nearing completion in the Midway-Sunset, Kern River, Premier and Mount Poso fields and, with 8 or 10 of these wells either rotating ahead in the pay or standing cemented on top of the oil zone, a relatively large completion list in these fields may be expected during the next fortnight. In the Kern River field the Chanslor-Canfield Midway Oil Co. has completed No. 55 in section 23-28-27, pumping 114 bbls. of clean 16.1 gravity oil per day from 2,150 feet. This new well was finished with a 10¾-inch water string landed and cemented at 1,832 feet and an 8⅝-inch liner carrying 326 feet of 180-mesh screen.

Ventura Avenue

The Associated Oil Co. made up for lost time in the Ventura Avenue field this week by completing three wells, although none of them registered substantial production. On the Lloyd lease, the company finished No. 37

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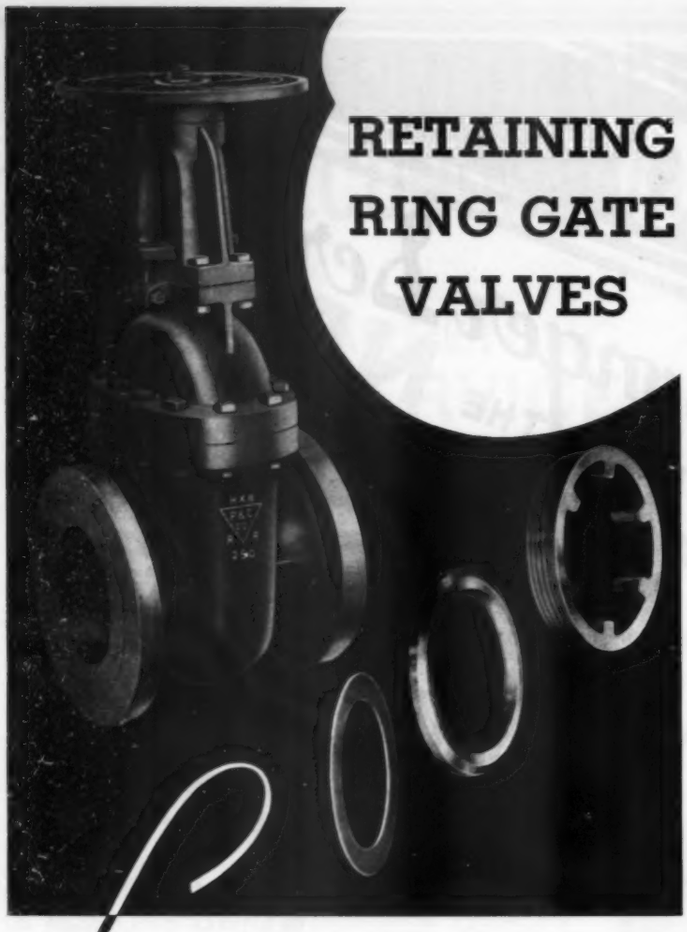

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pumping 212 bbls. per day after plugging back the hole to 4,050 feet and completed No. 133 pumping 209 bbls. per day from 6,650 feet. The former was finished with a 9⅝-inch water string landed and cemented at 3,570 feet and a 5¾-inch liner carrying 523 feet of perforated. No. 133 Lloyd has the water string landed at 6,650 feet and the 5¾-inch liner including 540 feet of perforated. The Associated No. 24 V.L.&W., bottomed at 7,220 feet and finished with a 9⅝-inch water string landed at 6,593 feet was brought in flowing by heads at the rate of 216 bbls. of 26.5 gravity oil per day. The output of all three of these wells is cutting about 15 per cent but may clean up after several days of production. Drilling operations in the Ventura Avenue field are not as heavy at present as they were a year or so ago although both the Shell and Associated are pursuing a consistent drilling program.

In the Capitan field of Santa Barbara County, the General Petroleum completed No. 15 Erburu at 2,421 feet and this new well was brought in pumping 55 bbls. of relatively clean 41.2 gravity oil per day. The small production secured is compensated for by the high quality of oil produced and the comparatively small drilling costs involved. The Shell is making preparations to start three new wells in this field in the immediate future and at least one of them should begin making hole within the next 15 days. Heavy rains during the past week have hampered work especially in the movement of heavy equipment to the well sites. On the Covarrubias lease, the Shell is starting Nos. 10 and 12 and on the Orella property the company is building rig for No. 3 which is located 1,605 feet north and 397 feet west of the most easterly corner of the property in section 32-5-30. The Barnsdall and Rio Grande No. 12 Luton-Bell in the Elwood field of Santa Barbara County failed to come up to the expectations on a recent test and drilling operations have been accordingly resumed. This well is being carried down into the Eocene which was topped at 6,725 feet several weeks ago. The bit in this well is at present rotating ahead in sandy shale at 7,198 feet.

Santa Fe Springs

Three new wells were chalked up in the Santa Fe Springs field this week, two of which stand to the credit of the Union Oil Co. No. 30 Alexander, bottomed at 3,740 feet and finished with a 6⅝-inch liner carrying 80 feet of perforated, was brought in pumping 198 bbls. of relatively clean 31.5 gravity oil per day. The Union No. 94 Bell, which was completed at 5,928 feet and finished with a 6⅝-inch liner including 41 feet of perforated was brought in pumping 131 bbls. of 32.6 gravity oil per day. The output of the last well is still cutting about 20 per cent and may therefore require some remedial work. The Standard Oil Co. No. 20 Weisel finished at 4,510 feet with a 5-inch liner carrying 211 feet of perforated was completed pumping 76 bbls. of 35.7 gravity oil but, like the Union No. 94 Bell, production is cutting approximately 20 per cent.

Only one new well was completed in the Long Beach field of Los Angeles Basin this week and its production was so small that it will not exert much influence on field production. This new well was the Progress Oil Co. No. 1 Signal which was bottomed at 5,400 feet but plugged back to 5,150 feet before completion. It showed an initial daily production of 108 bbls., the oil testing 27.1 gravity and showing a cut of 6 per cent. The Texas Co. made a formation test on No. 13 Baldwin in the Montebello extension and the result indicated that the well should be good for 1,200 bbls. per day. The company topped the Cruz zone at 6,900 feet and made the formation test from 6,992 feet with the packer set at 6,886 feet and open for 30 minutes. After some study, the company decided to make some more hole before completing it as this zone should be good for another 75 feet. In addition to the fluid produced on the formation test, the well made a short flow at the rate of 3,000,000 feet of natural gas. This was considered a good omen as many of the wells in this extension have failed to show a good sustained flow of gas.

Illinois Conference

The Fourth Annual Mineral Industries Conference of Illinois, in which the state's mineral and engineering organizations will participate, will be held at Urbana, Ill., on Friday and Saturday, April 24 and 25, according to an announcement made by Dr. M. M. Leighton, chief of the Illinois State Geological Survey. The conference will be sponsored by the Geological Survey Division of the State Department of Registration and Education, the Engineering Experiment Station of the University of Illinois, and the Illinois Mineral Industries Committee.

Petroleum on Roads

Petroleum products, which are taxed to provide more than one-half the money required to build the nation's highways, also are used in highway construction, a survey of the U. S. Bureau of Public Roads indicates.

It is estimated that for every $100,000,000 spent upon highways, $8,558,000 goes into petroleum products, the volume consumed amounting to 4,366,000 bbls. Of this total, 1,930,400 bbls., valued at $4,592,600, are used directly in highway construction. The others are consumed in the form of fuels and lubricants by the numerous industries which supply road-building materials.

Alberta Geologists

CALGARY, Alberta, Feb. 15.—The Alberta Society of Petroleum Geologists at a recent meeting elected Russell V. Johnson president to succeed Dr. T. B. Williams. Other officers were: Vice president, J. G. Spratt; secretary-treasurer, B. L. Thorne; business representative, Col. F. M. Steele. At the same meeting the Calgary branch of the Canadian Institute of Mining and Metallurgy elected Dr. J. O. G. Sanderson chairman and B. L. Thorne secretary.

Papers were read by Dr. Robin Willis on acid treatment of wells and by George R. Elliott of the Oil & Gas Products, Ltd., on absorption plant operation in the Turner Valley field.

GRANUM, Alberta, Feb. 15.—Shareholders of Public Petroleum Corp., Ltd., marketing petroleum products in the Granum district at its annual meeting recently elected the following board of managers: William Sherman, R. A. Macleod, B. Walker, M. Weatherhead and R. A. Smith. The board elected Alex MacGregor as managing agent.

Texas and Louisiana Gulf

By
F. L. SINGLETON

AMELIA PROSPECT, OUTSIDE OF BEAUMONT, OPENS POOL

HOUSTON, Tex., Feb. 17.—The Amelia prospect, located on the outskirts of Beaumont, in northern Jefferson County, was added to the list of producing fields on the Gulf Coast by the completion of Humble Oil & Refining Co. No. 1 Langham when it flowed at the rate of 20 bbls. per hour through a quarter-inch choke with tubing pressure 675 pounds and casing pressure 800 pounds. It is producing from the Frio sand bottomed at a plugged back depth of 6,777 feet. Seven-inch casing was cemented at 6,669 feet. On the last 24-hour gauge ending February 14, it flowed 317 bbls. through a fourteen-sixty-fourths inch adjustable choke with tubing pressure 750 pounds and casing pressure 950 pounds. Gravity of the oil is 29.2 corrected.

No. 1 Langham made its appearance as a possible pool opener two weeks ago when it tested 3,400 feet of oil on a drill stem test at 6,772-91 feet. It was then drilled to a depth of 6,903 feet where it showed salt water, and was plugged back to its present depth. Based on the top of the Frio encountered around 6,300 feet, it is producing from about 400 feet of Frio section which is thought to be unusual for this type of field, as in most cases the oil sand is encountered near the top of the sand, with the gas cap being between the Marginulina-Frio contact.

Approximately 16 applications for permits to drill have been filed with the Railroad Commission offices at Beaumont, which assures the area of an extensive development program. The majority of the permits, however, are expected to be held up until February 25, at which time a hearing will be held before the commission at Austin regarding drilling restrictions. It is expected that a 20-acre spacing rule will be asked for. Humble Oil & Refining Co. has made its third location. It is No. 2 Miller located 466 feet from the south and east lines of Block 1 of the Garden Villas Subdivision in the A. Savery Survey, or about 2,000 feet north of its No. 1 Miller which was the first test drilled on the block and was abandoned in salt water sand at 6,470 feet.

In the Withers field, southern Wharton County, Texas Co. is preparing to complete No. 2-C Pierce for the second producer in the pool. The gas sand was topped at 5,470 feet and it is bottomed in oil sand at 5,563 feet, which is apparently on the same strike with that of the discovery well, located to the north about 1,000 feet. Seven-inch casing was cemented at 5,555 feet. Location is in the John Cardwell Survey.

Northwest of the Pickett Ridge field, Wharton County, Texas Co. has taken over the wildcat test of Trinity Drillers, No. 1 Joseph Marek, located in the south corner of section 76 in the I.&G.N. Survey.

Anahuac Field

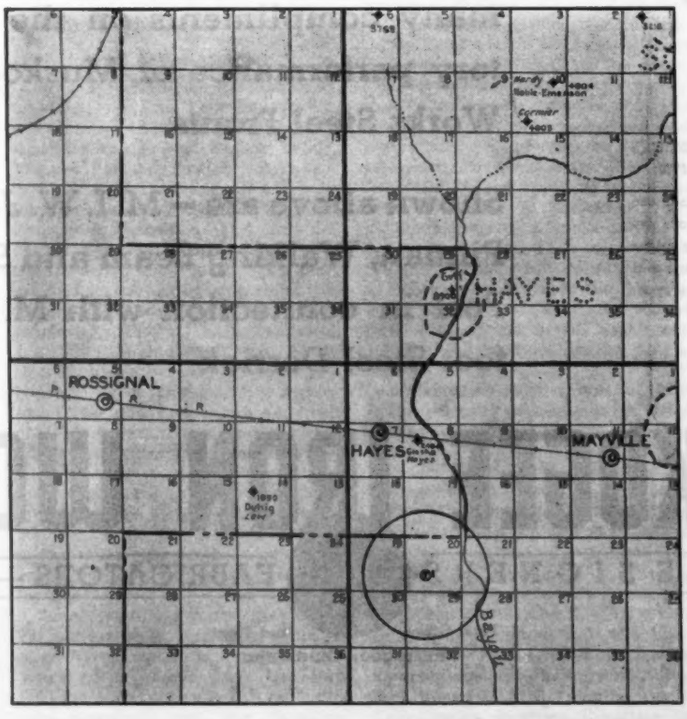
There were five completions and nine locations recorded for the Anahuac field in Chambers County. All completions were made by Humble Oil & Refining Co. No. 7 Broussard flowed 27 bbls. per hour through a quarter-inch choke from 7,082 feet. Location is in section 63; No. 8 Clark in section 57, was completed at 7,090 feet but there was no gauge available; No. 7 Engels in section 50, flowed at the rate of 27 bbls. per hour through a quarter-inch choke from a depth of 7,082 feet, and No. 6 White in the northern part of the field, made 20 bbls. per hour through a quarter-inch choke from a total depth of 7,110 feet. Humble Oil & Refining Co. made locations for No. 10 Broussard in section 63; Nos. 8, 9, 10 and 11 White are located in the northern part of the field in the James McGahey Survey. In this same area, Sun Oil Co. announced locations for four wells, being Nos. 9, 10, 11 and 12 White in the James McGahey Survey.

To the southwest about 12 miles, much attention was centered on the wildcat test of Black Gold Petroleum Co., No. 1 Barrow, located in the R. Barrow Survey. It is drilling ahead below 7,200 feet after a reported showing of oil was reported to have been encountered around 7,152 feet. At this depth it is thought to be in the Marginulina horizon.

To the northwest in the Turtle Bay field, Stanolind Oil & Gas Co. is rerunning screen preparatory to testing No. 1 Cooper, a west offset to the discovery well in the S. Burney Survey. After it had been plugged back 6,625 feet to 6,611 feet and it failed to flow after being swabbed for several days, the screen was pulled and an electrical coring test was made which showed the casing to be sealed with cement. No. 1 State located south of the discovery well in the waters of Turtle Bay has been spudded.

Dickinson Field

Humble Oil & Refining Co. No. 1-B San Leon Farm, located a half mile west of production in the Dickinson field, Galveston County, has been completed for an initial production of 2 bbls. of distillate per hour through a three-sixteenths inch choke with tubing pressure 3,100 pounds and casing pressure 3,025 pounds. Location is in Block 102, A. E. Edwards Survey. Along Dickinson Bayou, Stanolind Oil & Gas Co. has finished No. 2 State for a dry gas well. It was originally drilled to a depth of 9,135 feet and was plugged back to 8,075 feet where it was completed through perforated casing from 8,060-70 feet for an initial production of 4,000,000 feet of gas per day through a quarter-inch choke with tubing pressure 2,700 pounds and casing pressure 2,500 pounds.



Wildcat location of Shell Petroleum Corp. No. 1 Lacassine located on the Hayes Prospect, southern Jefferson Davis Parish, La., which is preparing to core for sand after encountering gas from 9,341-44 feet

(Map courtesy of W. W. Zingery, Second National Bank Bldg., Houston, Tex.)

Near Completions in Houston

At Hastings field, Brazoria County, two producers are scheduled to be completed during the week. Humble Oil & Refining Co. No. 3 Cannon in the H.T.&B. Survey No. 36, is bottomed in oil sand at 6,050 feet and Stanolind Oil & Gas Co. No. 2 Cannon is bottomed in oil sand and casing is being cemented preparatory to testing. Both wells are located on the west side of the field in the H.T.&B. Survey No. 36.

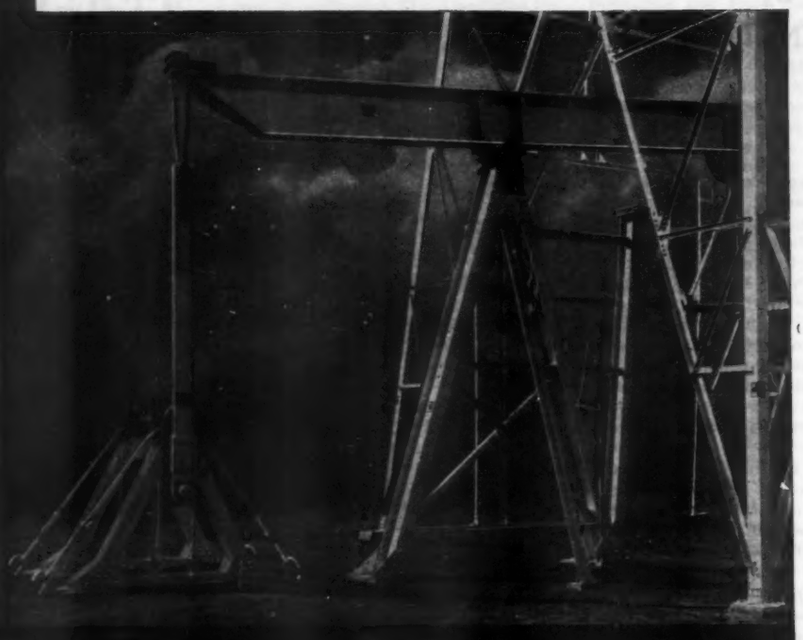
At the Placedo field, Victoria County, Superior Oil & Gas Co. No. 1-B Henderson and Pickering, located in the S.A.&M.G. Survey, cored oil sand to a depth of 4,786 feet and on a drill stem test from 4,780-86 feet it showed 3,300 feet of oil and is preparing to run casing. In the same survey, Westgate Oil Co. No. 2 Mieska flowed 5 bbls. per hour through a one-eighth inch choke with tubing pressure 500 pounds and casing pressure 300 pounds. It is bottomed in sand at 4,768 feet with 7-inch casing cemented at 4,752 feet.

Wildcat Failure

Humble Oil & Refining Co. No. 1 E. Welder, located in the Greens Lake area, Calhoun County, has been abandoned at 6,199 feet. The only showing encountered was around 5,700 feet, but when given a drill stem test it showed salt water. One of the most interesting wildcats drilling on the Gulf Coast is Continental Oil Co. No. 2-A Moody, located on the Seadrift prospect in the Pedro Garcia Survey. The operators have been successful in drilling through a thick section of heaving shale and the hole is now bottomed at 9,083 feet, where the operators are attempting to run 5¾-inch casing. However, it is understood that the hole has started to heave and the operators are having some trouble in getting back to bottom.

West of Houston on the Burnett Bay prospect, Harris County, Cockburn Oil Co. and others No. 1 Tomkins, located in the N. Lynch Survey, topped the Heterostegina at 5,140 feet, Marginulina at 5,277 feet and it is coring ahead in sandy shale below 5,354 feet. Northwest on the Sheldon prospect, A. C. Hill No. 1-A Swilley in the Victor Blanco Survey, which has been shut down at 6,891 feet, is drilling ahead in a sidetracked hole below 4,725 feet, after the operators were unable to get to bottom in the old hole. West of Hous-

M. I. W. Steel Rig Fronts



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ton in the J. Pier Survey, Texas Gulf Production Co. No. 1 West Moreland Development Co. is drilling in shale below 8,570 feet. The Cockfield was topped at 8,480 feet and the upper Saline Bayou at 8,747 feet.

At the Shepherds Mott dome, Matagorda County, Helmerich and Payne No. 1 Hawkins is trying to swab the tubing clean after it became clogged while the operators were washing the well. The hole is bottomed in the Frio horizon at 7,831 feet and screen was set from 7,766-96 feet. Although the well has failed to produce at its present depth, considerable acreage is being sold as high as $150 per acre cash and the same amount in oil.

Test in Morales Survey

Seven miles south of Port Lavaca, Crown Central Oil Co. is moving in machinery for No. 1 M. C. Driscoll, located 990 feet out of the north corner of section 24 in the Beneto Morales Survey.

LOUISIANA

The most outstanding development along the Louisiana Gulf Coast was the favorable showing made by Shell Petroleum Corp. No. 1 Lacassine, located on the Hayes prospect in southern Jefferson Davis Parish. While the operators were pulling a core from 9,341-44 feet, the total depth, the well tried to blow out, causing a shutdown for a few days to condition the drilling mud as a precaution against a blowout. Late in the week the operators had reached the bottom of the hole and were preparing to take a 5-foot core.

The well is situated on a large block that includes acreage in Calcasieu, Jefferson Davis and Cameron Parish. Actual location of No. 1 Lacassine is 990 feet north and 1,980 feet east of the SW cor. section 20-11s-5w.

Estimated Production

Estimated daily production of the principal producing pools on the Gulf Coast for the week ended February 13 follows:

	Bbls.
Texas Gulf Coast—	
Anahuac	4,438
Barbers Hill	17,798
Conroe	40,387
Hastings	4,921
High Island	6,024
Hull	5,845
Humble	3,370
Manvel	7,000
Mykawa	3,764
Pierce Junction	3,978
Sugarland	5,583
Thompson	9,320
Tomball	6,407
Greta	13,903
Refugio	4,407
Saxet	5,355
Saxet Heights (new field)	500
Tomoconnor	3,015
Miscellaneous	66,694
Louisiana Gulf Coast—	
Black Bayou	3,450
Bosco	15,217
Bayou St. Dennis	3,082
Caillou Island	9,876
Cameron Meadows	5,705
East Hackberry	7,146
Gillis	13,822
Iowa	19,654
Lake Barre	9,274
Leesville	14,446
Port Barre	2,818
Roanoke	5,678
Sulphur	3,340
Miscellaneous	19,767
Total	345,795

In the Tepetate Field

At the Tepetate field, Acadia Parish, Continental Oil Co. has two wells scheduled to be completed during the week. No. 1 D. J. Miller, located in section 28-7s-2w, is bottomed in oil sand at 8,385 feet with 7-inch casing cemented on bottom. It extends the field several hundred feet east. No. 1 C. Miller in section 29 is bottomed at 8,312 feet with 5¾-inch casing cemented on bottom. On the west side of the field, the company has made location for No. 2 Homeseekers Development Co., located 1,980 feet west and 1,650 feet north of the SE cor. section 29-7s-2w.

The Lafitte field, Jefferson Parish, was extended 1,000 feet southwest by the completion of No. 2 Rigolet Cooperative Co. which flowed 1,769 bbls. per day through a three-eighths inch choke with tubing pressure 1,560 pounds. It is bottomed in sand at 9,606 feet with 7⅝-inch casing cemented at 9,575 feet. This is the fourth producer for the field.

Interesting Test

Much interest was being shown in the outcome of Charles Green and others No. 1 Foster Creek Lumber Co., located in Wilkinson County, southern Mississippi. It topped the Cockfield at 3,835 feet and is reported to have encountered a showing of oil from 3,868-78 feet. This showing, encountered at the top of the Cockfield, makes the outcome of the well very encouraging. Location is in the C SE quarter section 8-4n-1e.

On the Henderson prospect, St. Martin Parish, Texas Co. No. 8 St. Martin cored sand showing oil from 4,753-60 feet and from 4,797-98 feet. Sandy shale showing oil was cored from 4,900-04 feet and it is drilling ahead below 4,907 feet. Location is in section 17-8s-7e.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Feb. 15.—Deliveries from the Turner Valley field to the Calgary refineries in January totaled 79,127 bbls., compared with 87,355 bbls. in January, 1935, and a monthly average for 1935 of 80,710 bbls. Imperial Oil Refineries, Ltd., received 69,186 bbls., including 2,664 bbls. of clear naphtha, 64,860 bbls. of discolored naphtha and 1,662 bbls. of light crude. Bell Refining Co. received from the Model, Mar Jon, Spooner and Highwood-Sarcee companies a total of 9,941 bbls., the highest figure in many months.

Arca Development

An deep test will be spudded early in spring by Arca Development Co. on acreage west of the Aldersyde structure and east of Turner Valley. The new company, which was recently incorporated, is understood to be jointly financed by Imperial Oil, Ltd., Calgary & Edmonton Corp. and Canadian Western Natural Gas, Light, Heat & Power Co. The company holds grouped leases aggregating about 42,000 acres in Townships 17, 18 and the southern portion of 19, in Ranges 29 and 30w4, and Range 1w5. Township 30, which is on the dividing line between the meridians, is a narrow strip. The acreage is south and west of High River, the northeast corner of the block being approximately 6 miles due south of Ranchmen's Gas & Oil Co. No. 1 deep test on the Aldersyde structure in LSD 16, section 13-20-29w4, while the western limit is a few miles east of the most recent extensions of the South Turner Valley field.

Some five or six years ago geological surveys were carried on south of High River, and within the past two years seismographic work has been done by a Denver company for interests connected with the Canadian Western Natural Gas Co., the findings of the seismographic survey confirming those of the geologists.

Heavy duty equipment will be used and No. 1 test will be drilled to approximately 7,500 feet, no commercial production being anticipated above that depth. The nearest deep drilling to the west was Northwest Co. No. 1 Calgary & Edmonton-Longview in LSD 5, section 27-18-2w5, on the east side of the Turner Valley structure, which finished at 6,220 feet as a small producer, getting the Madison at 5,592 feet and faulting back to the Benton at 6,207 feet. To the north and east, Ranchmen No. 1, LSD 61, section 13-20-29w4, is below 6,660 feet but has not yet reached the Madison.

The development program is being undertaken on a unitization basis. The acreage has been secured partly from the Alberta government and partly from private companies and individuals, though the larger part represents the old Calgary & Edmonton Railway land grant, on which the present Calgary & Edmonton Corp. holds mineral rights. The lessors have agreed to pro-rate their royalties in the ratio of their individual holdings as against the unitized area. The Alberta government has also agreed that drilling credits will be allowed whether the locations are on government or private leases. No. 1 has not been definitely located, but will likely be about 7 miles west of High River.

South Turner Valley

In section 28-18-2w5, South Turner Valley, British Dominion Oil & Development Corp. No. 4, LSD 6, is taking production from the Madison lime at 6,325 feet, naphtha yield averaging around 130 bbls. a day. Part time production in January reached 3,227 bbls. It will be deepened into the black lime when the weather moderates. Extreme cold has hampered drilling operations in other South Turner Valley wells. Renfrew Royalties No. 1, LSD 3, same section, is standing in the top of the lime at 6,020 feet. In the northwest corner of the section, Turner Valley Royalties No. 1, LSD 13, has resumed with rotary tools and is deepening below 3,300 feet.

Farther south, in section 21-18-2w5, Union-Freehold Oil Corp. No. 1, LSD 8, is gradually clearing itself of rotary water with some increase in wet gas and naphtha. Production test will be made after the porous lime is clear of water, and it may later be shot. In the southeast corner of the same section, Highwood-Sarcee Oils No. 2, LSD 1, has cemented 13-inch casing at 2,207 feet and is changing to rotary tools.

North Turner Valley

In the North Turner Valley field, Royalite Oil Co. No. 27, LSD 4, section 23-20-3w5, is below 5,156 feet. It got the Home sand at 4,640 feet, Dalhousie formation at 4,860 feet and the brown sand at 4,930 feet, and is getting close to the Madison limestone. It is logging considerably deeper than Royalite No. 26, farther north, same section, the largest producer in Turner Valley. Farther west, Model Oils No. 3, LSD 1, section 22-20-3w5, is cleaning out and testing production from the Madison limestone at 6,240 feet.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co. No. 1 McLaren, LSD 12, section 13-31-10w5, is standing at 5,422 feet, waiting for casing. It will likely resume about the middle of March.

Operations throughout the foothills have been hampered by cold weather, 30 degrees or more below and snow heavily drifted. In many isolated areas the roads have been impassable. Northeast of Turner Valley, on the New Valley structure, McLeod Oil Co. No. 1 New Valley, LSD 4, section 6-21-2w5, is running 8-inch casing to 4,500 feet. Farther south, Ranchmen Gas & Oil Co. No. 1, LSD 16, section 13-20-29w4, is deepening below 6,665 feet.

West of Turner Valley on the Rickert structure, Paramount Oils No. 1, LSD 1, section 28-19-4w5, is shut down at 5,048 feet. South of Turner Valley, Maple Leaf Royalties No. 1 Banner, LSD 6, section 34-17-3w5, on the Highwood-Sinclair structure, is shut down at 2,597 feet, and will not likely resume until spring.

On the Watson structure north and west of Lundbreck, Mar Jon Oil Co. No. 3, LSD 3, section 4-10-2w5, is below 3,912 feet. Mar Jon-Maxmont No. 4, LSD 10, section 20-9-2w5, is drilling. Raven Oils No. 1, LSD 1, same section, is shut down until spring.

In the Waterton Lakes area, Oil City Royalties No. 1, NW quarter section 30-1-30w4, is temporarily shut down at 2,501 feet.

In the Weymarn field near Pincher Creek, Weymarn Petroleum No. 2, LSD 5, section 7-6-1w5, is standing at 5,154 feet and waiting for production test. It has a fairly strong wet gas show and some light crude. Several companies are reported scouting for acreage southwest of Pincher Creek.

Wainwright Deep Test

In the Wainwright field, East Central Alberta, Montreal-Alberta Oils No. 1, LSD 2, section 15-45-7w4, will resume in the spring as a test of the underlying limestone formations. It was drilled in 1933 to 2,885 feet, getting gas shows between 2,119 and 2,248 feet and oil shows in the Wainwright sand between 2,294 and 2,321 feet. It entered the lower Cretaceous formations at 2,060 feet and got a

(Continued on Page 75)

North Louisiana, Arkansas

By
J. R. CRUMPTON

RODESSA EXTENSION TESTS ARE CENTERS OF INTEREST

SHREVEPORT, La., Feb. 17.—Interest in this district is still centered around three outpost tests in the Rodessa area which have possibilities of extending production from 1 to 2 miles in three directions. The announcement of a wildcat test along the Rodessa trend to the southwest in Marion County and two other locations in that direction in Cass County, both Texas border counties, has quickened interest in these areas.

Lion Oil Refining Co. No. 1 J. M. Wynn, section 9-23-15, 2 miles northeast of Rodessa proven lines, has the operators guessing. Seven-inch casing has been set at 6,145 feet with the top of the Young saturated lime logged at 6,150 feet. The hole is bottomed at 6,157 feet, or a subsea depth of 5,816.4 feet. As the water line in the field is generally conceded to be subsea of 5,785 feet, this places the bottom of this test 31.4 feet below the water level, but to date no water has shown on tests. Haynes Production Co. No. 1 Zylks in the SE cor. of section 9-23-16, is being drilled as a "tight" well, but is nearing the pay horizon. The last reports give the test drilling at 5,919 feet, and if successful it will be a mile to 1½-mile extension of production west and northwest. The third test to be watched, R. W. Norton No. 1 Mary Rives, John Collum Survey in Cass County, topped Gloyd sand at 5,815 feet and is coring at 5,976 feet.

Haynes Production Co. No. 3 Caldwell in the SW cor. of section 12-23-16, was completed as a fair well but is a disappointment to its backers. The test, on the northern fringe of production, gauged 200 bbls. in 12 hours through one-half inch tubing choke, tubing pressure registering 100 pounds and casing pressure 500 pounds. Top of saturation was logged at 6,026 feet and the hole bottomed at 6,049 feet or subsea depth of 5,785 feet. An offset to the south of this test, United Gas Public Service Co. No. 3 Tyson unit, NW cor. of section 13-23-16, tested an estimated 40,000,000 feet of gas, was killed and arrangements are being made to run a short string of casing with the total depth at 6,028 feet. The subsea depth logs 5,777 feet and the hole may be deepened. The field completed two good wells well within the proven lines. Arkansas-Louisiana Gas Co. No. 7 Rodessa Oil & Land Co., section 23-23-16, is a 90-bbl.-per-hour producer through one-half inch choke on tubing from 6,004 feet; tubing pressure 450 pounds, casing pressure 400 pounds. O'Brien Brothers No. 2 Rodessa Oil & Land Co., section 14-23-16, made 120 bbls. per hour through one-half inch tubing choke from 6,007 feet, casing pressure registering 800 pounds and tubing pressure 400.

Other North Louisiana completions follow: DeSoto Parish, Clarke & Stiller No. 1 Logan Oil Co., section 17-10-12, 24,444,000 feet of gas and 955 pounds rock pressure from 3,280 feet. Morehouse Parish, J. E. Farrell No. 10 State, section 9-20-4e, 3,000,000 feet of gas, 373 pounds rock pressure from 2,150 feet. Union Parish, Interstate Natural Gas Co. No. 43 fee, section 2-20-3e, gauged 3,000,000 feet of dry gas and 865 pounds pressure from 2,154 feet. One small well was reported from the Converse field. W. E. Hall No. 1 Edwards, section 29-9-13, pumping 5 bbls. from 2,090 feet.

Blocking of acreage behind seismographic crews on potential anhydrite highs continues at an unabated pace in this district. New plays develop every few days in areas heretofore passed up, and leases range in price from $5 to $25 per acre after it is known where the activity is taking place. Tide Water Oil Co. is reported to have completed its block centering around section 10-18-10 in the McIntyre-Doyline area of Webster Parish. In Claiborne Parish, W. C. Glothlin and others are rigging up on No. 1 Brinker, section 10-23-4w, and are reported to have a contract to drill a 4,500-foot hole. On the eastern flank of the Sligo field, Bossier Parish, and just west of Producers Oil & Gas Co. No. 1 Pettitt, a recent extension, United Gas Public Service Co. is rigging up on No. 1 A. J. Murff in section 17-17-11. It is reported to be a test for oil below the gas-producing lime. In the Zwolle area, Sabine Parish, A. H. Tarver is arranging to spud on No. 2 Baker, section 32-8-12, and will drill to Oolitic lime of the Glen Rose. This operator recently abandoned a hole in the immediate vicinity, No. 1 Baker, after failing to clean out for deepening from a shallower depth. A deep test in the Sugar Creek field of Claiborne Parish, United Gas Public Service Co. No. 2 Durrett, section 31-20-5, has a fishing job for drill stem, twisted off after being stuck. The test is reported to have shown some oil and gas from shale and sand from total depth of 5,655 feet.

East Texas Border Counties

A wildcat test on the southwest Rodessa trend is reported for Marion County in the vicinity of the town of Lodi. E. B. Germany, independent operator of Dallas, and associates are reported to have staked a location on the W. B. Sellers tract in the B. W. Hobson Survey about 1 mile west of Lodi. This area has been a hot spot since the discovery of oil in Rodessa and has been thoroughly worked out seismographically. A number of shooting crews are still working in the area, including those employed by Amerada Petroleum Co., Shell and Sinclair Prairie and United Gas Public Service Co.

American Liberty Oil Co. has staked two new locations in Cass County. Its No. 1 D. A. Maxie, John Collum Survey, is about 1 mile east of No. 1 Rodgers, C. M. Robinson Survey, recently completed as a 3,000,000-foot gasser after plugging back to 5,830 feet from an old total depth of 7,010 feet. The small gasser was about 2 miles west of the Cass County-Louisiana line and about 1½ miles southwest of production. The second location is about 3 miles southwest of production and about the same distance from the company's first test. It is on the Marcus Rembo tract, J. H. Reeves Survey.

Southeast of Marshall in Harrison County and west of the Elysian field. Eastern Texas Oil Co. is reported to have made location for a deep test to be located either in the J. D. Pearson or W. Watson Surveys. The contract calls for a 6,000-foot hole and the operators state that plans may work out to drill the test to 9,000 feet. Also in Harrison County, 2 miles northeast of Hallsville, Bergandall & Carroll are reported to be moving in rig to deepen No. 1 Buchanan in the W. McIlvain Survey, which has been shut down at 3,848 feet.

Estimated Production

Estimated daily gross production all companies week ending February 14, 1936:

NORTH LOUISIANA

Bellevue	455
Caddo, light	4,095
Caddo, heavy	2,310
Converse	1,115
Cotton Valley	210
De Soto and Red River	1,280
Elm Grove	355
Haynesville	3,380
Holly	165
Homer	2,575
Pleasant Hill	165
Rodessa*	33,875
Sarepta-Carterville	495
Urania	2,680
Zwolle	1,300
Total	54,445

* Includes one well in Cass County, Tex.

SOUTH ARKANSAS

Champagnolle	2,790
El Dorado	2,135
Lisbon	305
Miller County	1,225
Nevada	870
Smackover, light	2,150
Smackover, heavy	17,540
Stephens	605
Urbana	2,060
Total	29,680

ARKANSAS

Seaboard Oil Corp. is moving in rig on No. 2 fee, section 28-17-4, Ashley County, for a second test on its 10,000-acre block. The first hole, junked and abandoned at 2,494 feet, and the second, No. 1 Bynum, section 34-17-4, was abandoned in igneous rock as a dry hole at 2,465 feet. One new operation was announced for Miller County, J. W. Jones and others No. 1 J. H. Bush in section 2-19-27.

Dixie Drilling Co. is rigging up on No. 1 Wheatley, section 14-11-26, Hempstead County, and a deep test in the Stamps area of Lafayette County, Erwin & Leach No. 3 Bodcaw Lumber Co., section 20-16-23, topped anhydrites at 3,310 feet and is drilling at 3,348 feet. The test is reported to have cut the fault at 3,160 feet. Other Arkansas wildcats follow: Ouachita County, Grigsby & Aarner No. 1 Burris, section 19-15-19, drilling at 3,388 feet; Phillips Petroleum Co. No. 1 J. D. Reynolds, section 27-15-15, drilling hard white sand at 2,133 feet. In the Rainbow field, Union County, J. E. Crosbie, Inc., No. 4 Sullivant, section 12-17-14, is waiting on standard rig to pump with 1,200 feet of oil in the hole from total depth of 3,173 feet. F. C. Henderson No. 1 J. M. Sheppard, section 35-17-15, tested 70,000 feet of gas and a small show of oil from 2,192 feet.

TO AID VISITORS TO EXPOSITION

The house committee of the International Petroleum Exposition which will aid oil men who plan coming to Tulsa, May 16 to 23, for the ninth oil show to obtain hotel reservations. From left to right: W. B. Way, general manager of the exposition; Frank Bentley, Mayo Hotel; Arch H. Hyden, Minnehoma Oil & Gas Co.; A. L. Burch, Marathon Oil Co.; Harry Krusz, convention's secretary, Tulsa Chamber of Commerce; Earl Sneed, Sneed Petroleum Co., chairman; Guy H. Woodward, Stanolind Oil Co.; John R. Ramsey, Texas Co.; Lloyd G. Owen, Carter Oil Co.; other members of committee are: Herbert B. Smith, Sinclair Prairie Oil Co.; N. T. Gilbert, Turman Oil Co.; T. J. Birmingham, Margay Oil Co.; C. B. Peters, Jr., Norbia Oil Co., and Earl E. Porter, Amerada Petroleum Corp.

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Southwest Texas District

By GEORGE WEBER

NEW FAULT LINE ACTIVITY IS STARTED; MANY MORE WELLS

SAN ANTONIO, Tex., Feb. 17.—In addition to sustained drilling activity in the larger proven areas of Southwest Texas, a marked increase in wildcatting and development of smaller fields resulted from the week's operations in this section. Beginning of several tests in the previously quiet fault line counties of Frio, Zavalla, Maverick and LaSalle featured developments of the week, while small pools in Duval and McMullen Counties were gaining in attention. Greatest volume of drilling continued as usual in the larger fields of Duval, Webb, Nueces and San Patricio Counties.

Frio County drilling activity centered in the Pearsall field, with three tests in proven territory and one wildcat on the western edge. Of the three field tests, two being drilled by Amerada Petroleum Corp. were approaching critical depths, and the third, Thornton Davis No. 1 Halff & Oppenheimer, had drilled plugs and was swabbing at latest reports in the Navarro at 4,022-33 feet. The wildcat, Amerada No. 1 Correy & McWilliams was waiting for cement to set after running casing to 5,436 feet. Production has been found in three different horizons in this field, the Navarro, Buda and Austin, and showings of oil have been found in the Glenrose, and gas in the Edwards. Amerada Petroleum Corp. holds the largest acreage in the area. That company has announced locations for three additional tests to be drilled in the general vicinity of the Correy & McWilliams wildcat.

In Zavalla County

At the western edge of the large Amerada block, and across the line in Zavalla County, two wildcat tests are getting under way. The Leona Oil Co. and Witherspoon Oil Co. No. 1 George West is rigging up. This test will go 6,000 feet. A large rig is also on the way to Frank Buttram No. 1 Whitecotton in the same area. W. L. Bridges has announced location for another Zavalla County test to be drilled on the Price & Flowers lease in section 19. Still further west, in Maverick County, I. N. Boicourt will drill an the Bandera School Land northeast of Eagle Pass near the Kinney County line.

Following this increased activity, announcements have been made by operators holding large blocks in LaSalle County, located south of Frio County, for initial drilling programs. Three wildcat tests have been drilling for several weeks in Atascosa County, east of Frio County.

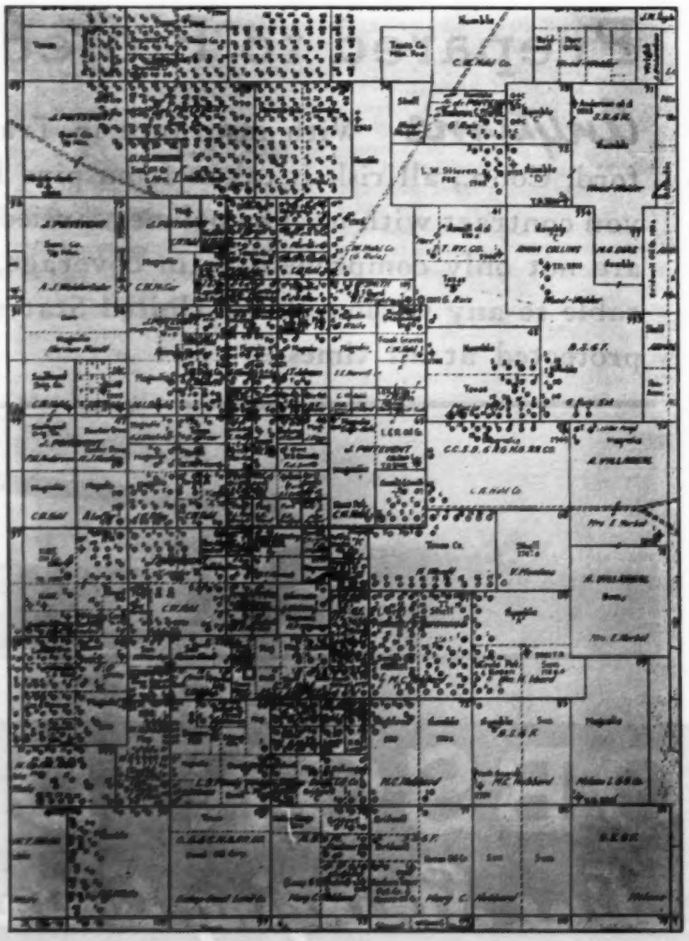
Although the large share of drilling in Duval County is in Loma Novia and Seven Sisters, active rigs were drilling in four other proven areas, and several widely separated wildcats were making hole. Since the two strikes made by Rogers & Rogers in the Hoffman area south of Loma Novia, drilling has commenced on two additional tests, and three new locations have been staked. The Rogers & Rogers No. 1 Cuellar, second test to find oil in the newly opened area, encountered difficulty in cementing, and was still being worked for expected completion early next week. The same company is drilling No. 2 Sutherland, offsett to the company's first producer, and Duval Oil Corp. has spudded in on No. 1 D. Ruiz in Survey 119. Other locations have been staked by Hamill and Smith and Standard Oil Co. of Kansas.

The two tests on the Eagle Hill area, Marzo Oil Co. No. 2 Hagist and McBride No. 1 Hagist, were both set on sand around 2,110 feet and will attempt completion shortly. In Piedra Lumbre, Magnolia Petroleum Co. No. 7 D.C.R.C. was set on the deeper sand at 1,962 feet and the Texas Co. had staked a location in the southwest quarter of Survey 100. Sun Oil Co.'s latest test in the Charamousca field, west of S.R.C., tested salt water in the 1,683-89-foot sand and was abandoned.

12 Completions in Loma Novia

Loma Novia operators completed 12 producers during the week. Most of the completions were made in the southern portion of the field in sections 59, 68, 75, 76, 77 and 83 with operations further north continuing in sections 42 and 67. While the area around sections 76 and 77 is becoming drilled up, much proven and undeveloped acreage exists to the north, and operations are continuing to extend the field on the south.

Five new producers were added to the Seven Sisters field in northern Duval County. Four of these were completed in the Government Wells sand and one in the shallower Chernosky sand. This field, with four separate producing horizons: Chernosky, Upper and Lower Government Wells, and Loma Novia, offers much potential production. Drilling of twin wells has already begun, with Blanco Oil Co. and Al Buchanan and Atlantic Oil Producing Co. developing the Government Wells and Chernosky sands in sections 385 and 591. The Harvey-Henderson-Dulce No. 1-A Chernosky, north edge test in section 226, was plugged back to the Chernosky at 2,220-29 feet and completed for allowable. This is an eastern offset to the discovery well of the field.



Loma Novia, at present the most active in Southwest Texas showing the development of production paralleling on the east the Government Wells field

(Map by W. R. Walker, San Antonio)

Lopez Field

The Lopez field in eastern Webb County gained new production with four completions during the week, and was apparently defined on the west by failure of Superior Oil Co. No. 1 A. S. Billings in Survey 7. This well tested some oil with salt water in the sand at 2,392-2,410 feet and was abandoned at a total depth of 3,420 feet. Mills Bennett Production Co. and Montour Production Co. completed producers in Survey 112, and G. G. Mortimer completed No. 9 M. Lopez and No. 2 Maria Lopez, the latter gauging one of the best initials in the field to date.

In the O'Hern area, O. W. Killam failed to find production in the sand tested at 2,716 feet and was drilling below 2,800 feet. This well tested gas at 1,797-1,812 feet where the same operator's No. 44 Bruni was completed as a gasser recently. Elsewhere in Webb County, one oil well was added to the O'Hern field, and two wildcats were abandoned. Both of these, Clopton & Doffing No. 1 Slator and Arthur Wray No. 1 Stuempke had been shut down on account of fishing jobs.

An important test for Webb County is getting under way as Southwestern Drilling Co. moves in on the No. 1 R. Lopez in Survey 139, about 8 miles south of the Lopez field near the Duval County line.

Hidalgo County wildcats progressed and leasing continued somewhat abated in the Lower Rio Grande Valley, constituting highlights of that area in the absence of any definite wildcat showings. Activity in the two proven fields, Samfordyce and Mercedes increased slightly.

Saxet Heights

Most active spot in the Lower Coastal region of Southwest Texas, the Saxet Heights field on the edge of Corpus Christi gained four new producers and several additional locations during the week. Edge wells and outpost wells in practically all directions from the proven area now drilling will show much of the ultimate size of the new field within the

(Continued on Page 81)

Kansas Developments

WILDCATTERS SHOW GREAT ACTIVITY IN WESTERN AREA

By
DAL DALRYMPLE

Field operations in Kansas have been slowed up and in many instances active work has been suspended because of cold weather, snow, frozen water lines and other deterrent factors of the season, but the inclemencies of the nature have not prevented operators from announcing locations for numerous tests scheduled to get under way when winter relents.

Many of the locations announced since the first of the year have been wildcats, strengthening prediction that 1936 would set a new high record for activity in the Sunflower state. Several wildcats that were started in 1935 already have opened pools or extended previously discovered pools.

The outlook in western Kansas is especially good for new work, as the Kaw Valley Pipe Line Co., which recently completed a line into that territory, has made connections to several areas heretofore without outlets. The only areas in western Kansas now without pipe line outlets are the Bemis pool in Ellis County; Bunker Hill, Russell County; Dopita, Webster and Zurich, Rooks County; Victoria and Schoenchen (Ruder), Ellis County; Shallow Water, the farthest west pool in the state, in Scott County, and the Wakeeney pool, Trego County.

New wildcat tests include the following: Hartman & Blair No. 1 Johnston, NW cor. section 7-13-14w, Russell County; Twin Drilling Co. No. 1 Reidel, SW NE section 27-13-16w, Ellis County; Blackwell Oil & Gas Co. No. 1 Solomon, SE SW section 28-11-19w, Ellis County; Ok-Tex Drilling Co. No. 1 Mahlinger, SE cor. section 21-21-2w, McPherson County; Helmerich & Payne No. 1 Elwell, NW NW NE section 18-34-1e, Sumner County, 7 miles north of the Oklahoma border; Simpson & Noble Drilling Co. and others No. 1 Hiss, C NW NE section 31-20-13w, Barton County, and George W. Hinkle and others No. 1 Hinkle, SW SW NW section 18-17-10w, Ellsworth County.

Wildcats which have discovered oil pay horizons since January 1 include Rose-Spring Drilling Co. No. 1 Brauer, SW SW SE section 4-26-4w, 1 mile northeast of production in the Hilger pool of Reno County; National Refining Co. No. 1 McCullough, NE NE SW section 1-28-6, Butler County, a completion of the past week; Yarnell, Carlson & Spencer No. 1 Bloomer, NE NE NW section 36-17-11w, Barton County; Torry & Feister No. 1 Feist, NE NE SE section 29-18-11w, Barton County; Ralph Day No. 1 Mason, NW NE NE section 28-21-7w, Rice County; C. E. Skiles and others No. 1 Edwards, NW NW NE section 5-18-8w, Rice County; R. C. Tarrant No. 1 Williamson, SE SE NW section 9-14-14w, Russell County, and F. A. Gillespie & Sons No. 1 Low, NE NE NW section 12-6-18w, Rooks County.

Slick, Pryor & Lockhart and others No. 2 Volkland, NE SE NW section 5-18-10w, in Rice County, topped Siliceous lime at 3,247 feet, had pay at 3,269-71 feet, total depth, was acidized, pumped 220 bbls. in 18 hours, made potential of 303 bbls. of oil in 24 hours and was completed.

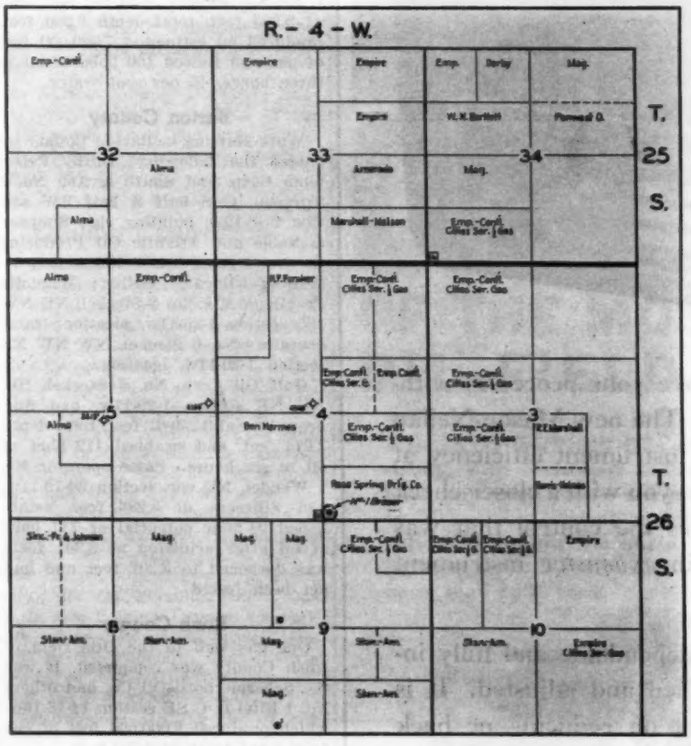
Permian Oil Co. No. 1 Conner, C NE NE section 28-19-7w, wildcat northeast of Lyons, had Siliceous lime at 3,630 feet, total depth 3,640 feet, plugged back to 3,210 feet, oil rose 400 feet in the hole in 48 hours; it was acidized, oil did not increase, and it was dry and abandoned.

Bradley Oil Co. No. 2 Wendell, SW NE NE section 32-19-10w, in the Silica area, had Siliceous lime at 3,272-94 feet, total depth, made 24-hour potential of 1,143 bbls. of oil and was completed.

Marathon Oil Co. No. 7 Proffitt, NE SW NW section 5-20-9w, in the Chase area, had top of Siliceous lime at 3,225 feet, total depth 3,234 feet, made potential of 1,340 bbls. of oil in 24 hours, completed.

New operations in Rice County follow: Gulf Oil Corp. No. 7 Steckel, SW cor. section 30-19-10w, building rotary rig; Stanolind Oil & Gas Co. No. 3 Specht, SE NW NE section 6-20-10w, location; Skelly Oil Co. No. 2 Graham, NW SE SE section 16-20-10w, location; same operator No. 3 Graham, NE SE SE section 16-20-10w, location; Continental Oil Co. No. 3 Foote, NE NW SE section 7-20-9w, cellar; Skelly Oil Co. No. 1 Sharpe, NW cor. section 8-20-9w, location; Gulf Oil Corp. No. 3 Dick, NW NE SW section 15-20-9w, rigging up rotary.

Sinclair-Prairie Oil Co. No. 4 Sharp, SW NE NE section 7-20-9w, topped Siliceous lime at 3,248 feet, total depth 3,272 feet; was acidized, swabbed 429 bbls. of oil in 10 hours and 172 bbls. the next 4 hours. Gulf Petroleum Corp. No. 4 Hartle, SW-NE NW section 15-20-9w, had Siliceous lime at 3,218 feet, was bottomed at 3,242 feet, and produced 575 bbls. of oil in 24 hours.



Area in which Rose-Spring Drilling Co. No. 1 Brauer, wildcat, found production northeast of Hilger pool, Reno County
(Mid-Continent Map Co., Wichita, Kans.)

Russell County

Phillips Petroleum Co. and Indian Territory Illuminating Oil Co. No. 1 Jellison, NE NE NW section 30-13-14w, in Russell County, pumped 84 bbls. of oil in 5 hours and pumped 745 bbls. in 18 hours after acidizing and was completed; top of Siliceous lime was 3,280 feet, total depth 3,288 feet.

Phillips Petroleum Co. No. 3 Holland, C E half SW SW section 13-14-15w, had Siliceous lime at 3,268-75 feet, total depth; was acidized and made potential of 434 bbls. of oil, 00 per cent water, completed.

Barnsdall Oil Co. No. 1 Karst, NE SE NW section 27-15-14w, in the Ochs area, was completed in Siliceous lime at 3,326-52 feet, total depth: after acidizing, it swabbed 100 bbls. of oil and 24 bbls. of water in 24 hours, and made potential of 185 bbls. of oil in 24 hours.

The following new work was started in Russell County: Hartman & Blair No. 1 Johnston, NW cor. section 11-13-14w, wildcat, location; Phillips Petroleum Co. and Glimac Oil Co. No. 1 Down, NE SE NW section 30-13-14w, moving in material; Gulf Oil Corp. No. 3 Ehrlich, NW SW NW section 1-14-15w, building rig; Hartman & Blair No. 2 Sullivan, SE NE SE section 2-14-15w, location; same operators No. 3 Sullivan, NW NE SE section 2-14-15w, location; Texas Co. No. 2 Holland, C W half NW SW section 13-14-15w, location.

Phillips Petroleum Co. No. 1 Downing, SE SW SW section 19-13-14w, pumped 205 bbls. of oil and 47 bbls. of water in 11 hours after acidizing; Oswald lime was topped at 3,008 feet, total depth 3,055 feet. Same operator No. 1 Amelia, SE SW SW section 6-14-14w, made a potential of 111 bbls. of oil, and produced 65 bbls. of water in 24 hours; top of Oswald lime was 3,050 feet, total depth 3,136 feet.

Estimated Production

Estimated daily average production of Kansas for the week ending February 15 and for the preceding week is as follows:

	Barrels	
	Feb. 15	Feb. 8
Oxford City	7,600	6,750
Burrton	12,950	13,100
Ritz-Canton	6,475	7,100
Hollow-Nikkel	4,375	5,025
Voshell	3,400	3,425
Ellsworth County:		
Lorraine-So. Lorraine	6,912	3,289
Other pools	1,524	962
Rice-Barton Counties:		
Chase	9,954	8,180
Raymond	2,281	2,501
Steckel-Isern (Silica)	4,613	3,120
Keesling	1,346	1,577
Miscellaneous Rice	3,237	2,750
Miscellaneous Barton	1,381	1,138
Russell County:		
Fairport	2,853	2,455
Gorham	3,300	3,093
Russell	2,893	1,970
Other pools	5,104	4,152
Sedgwick County:		
Valley Center	1,363	1,344
Greenwich	1,372	1,390
Robbins	1,642	1,545
Eastborough	909	911
Other pools	517	544
Ellis County	385	469
Kingman County	612	615
Stafford County	743	1,208
Greenwood County	10,700	10,750
Butler County	17,980	17,900
Other fields	19,604	19,612
Total Kansas	135,925	131,575

Reno County

Olson Drilling Co. and Shell Petroleum Corp. No. 3 Fast, C NW NE section 25-23-4w, in the Burrton area of Reno County, topped Chat at 3,-

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269 feet, total depth 3,366 feet, was acidized and established 24-hour potential of 185 bbls. of oil, completed.

Texas Co. No. 1 A. F. Collins, C NE NE section 9-24-4w, topped Chat at 3,289 feet, drilled to total depth of 3,326 feet and was completed as a 25,000,000-foot gasser.

McPherson Drilling Co. and Derby Oil Co. No. 1 Scheuchzer, NE SE SW section 17-24-4w, wildcat southwest of Burrton, was acidized and made 24-hour potential of 689 bbls. of oil, completed; top of Chat was 3,307 feet, total depth 3,391 feet.

New work reported in Reno County: Olson Drilling Co. and Shell Petroleum Corp. No. 3 Johnson, C SE NW section 24-23-4w, location; same operators No. 4 Rudicel, C NE SW section 24-23-4w, rig; Sinclair Prairie Oil Co. No. 2 Regier, C NW SE section 24-23-4w, location; Dickey Oil Co. and Indian Territory Illuminating Oil Co. No. 6 Baughman, SW SW NE section 3-24-4w, cellar; Gulf Oil Corp. No. 7 Myers, SE SW NW section 3-24-4w, building rotary rig; Derby Oil Co. No. 2 Seedle, NE NE SW section 17-24-4w, location.

Shell Petroleum Corp. No. 1 Brown, C SE NW section 10-24-4w, had Chat at 3,295 feet, total depth 3,380 feet, produced an estimated 7,000,000 feet of gas and flowed 106 bbls. of oil in three hours, 45 per cent water.

Barton County

Work starting in Barton County included the following: Darby Petroleum Corp. and Smith & Ash No. 1 Turgeon, C S half S half SW section 9-16-12w, building rig; Simpson & Noble and Atlantic Oil Producing Co. No. 1 Hiss, C NW NE section 31-20-13w, wildcat, location; Magnolia Petroleum Co. No. 5 Steckel, NE NW NE section 1-20-11w, location; same operators No. 6 Steckel, NW NW NE section 1-20-11w, location.

Gulf Oil Corp. No. 5 Steckel, SW NE NE section 1-20-11w, had Siliceous lime at 3,259-61 feet, total depth 3,274 feet, and swabbed 472 bbls. of oil in six hours. Same operator No. 1 Wendel, NE cor. section 36-19-11w, had Siliceous at 3,286 feet, established 24-hour potential of 717 bbls. of oil after acidizing at 3,301 feet; was deepened to 3,307 feet and had not been tested.

Rush County

One gas well in the Otis field of Rush County was completed. It was the Schermerhorn Oil Co. and others No. 1 Eitel-B, C SE section 14-18-16w, which produced 8,000,000 feet of gas from total depth of 3,500 feet.

A new test for Rush County was the Shell Petroleum Corp. No. 1 Shaffer, C NW section 22-18-16w, moving in material.

Sumner County

One well in the Oxford area of Sumner County was completed. Shell Petroleum Corp. No. 1 Nevitt, NE SW NE section 14-32-2, an old well drilled deeper, topped Dolomite at 2,888 feet, drilled to total depth of 2,964 feet, was shot several times, plugged back to 2,951 feet, was treated with 3,000 gallons of acid, pumped 272 bbls. of oil in 22 hours, established a 24-hour potential of 234 bbls. of oil and was completed.

New tests in Sumner County: Shell Petroleum Corp. No. 6 Community, NE NW NE section 14-32-2, old well drilling deeper, pulling big pipe; Shell Petroleum Corp. No. 2 Fritz, SW NE NW NE section 14-32-2, old total depth 2,116 feet, reaming hole to deepen; Carlock, Rosenthal and others No. 2 Wenrich, NE NW SW section 23-32-2, twin well, moving in material.

Shell Petroleum Corp. No. 1 Shore-B, NE NW SW section 25-31-2, an old well deepened from 1,899 feet, encountered Kansas City lime at 2,157 feet, drilled to 2,179 feet and produced 587 bbls. of oil in 12 hours. Same operator No. 2 Emrich, NE SW NE section 14-32-2, old total depth 2,087 feet, found Dolomite at 2,851 feet, was acidized after drilling to 2,947 feet, and pumped 110 bbls. of oil in seven hours. Same operator No. 13 Emrich, NW NW SE section 14-32-2, old total depth 2,065 feet, topped Dolomite at 2,815 feet, total depth 2,883 feet, and flowed 1,988 bbls. of oil in 24 hours. Barnsdall Oil Co. and Lario Oil & Gas Co. No. 14 Wenrich, SE SW NW section 23-32-2, topped Dolomite at 2,953 feet, was bottomed at 3,010 feet, and swabbed 270 bbls. of oil in six hours after a shot.

Cowley County

Two failures were registered in Cowley County. Texas Co. No. 1 King, SE SE NW section 2-31-4, topped Mississippi lime at 2,992 feet, 3,065 feet total depth; plugged back to 2,983 feet, was shot, but showed water and was dry and abandoned. Roth & Faurot No. 3 Smiley, SE NE NW section 12-32-4, found Mississippi lime at 3,060 feet, Siliceous 3,505-15 feet, total depth, and was dry and abandoned.

The following new work was reported in Cowley County: A. D. Morton and others No. 1 Roger, SE SE NE section 1-31-4, wildcat, moving in material; Lewis Production Co. No. 1 Carper, SE SW NW section 11-31-4, location; same operator No. 1-A Sherwood, NE NW NW section 14-31-4, location; Mead Brothers and others No. 1 Orr, SE SE SW section 23-31-4, wildcat, moving in material.

Harvey County

Ok-Tex and others No. 1 Osborne, C SE SE section 6-23-3w, wildcat in Harvey County northeast of the Burrton area, topped Chat at 3,605 feet, total depth 3,679 feet, plugged back to 2,875 feet, water intruded when plugs were drilled, and it was dry and abandoned.

In the Sperling area, Sunray Oil Co. No. 1 Dirks, C SE SW section 14-22-2w, topped Chat at 3,065 feet and was dry and abandoned at total depth of 3,087 feet.

New work in Harvey County: Marathon Oil Co. No. 1 Hegge, NW SW SW section 13-22-2w, moving in material.

Coffey County

Spencer and others No. 1 McLean, C E half SW SE section 1-23-14, was the only Coffey County completion. Mississippi lime was topped at 1,525 feet, total depth 1,559 feet; it was acidized and pumped 41 bbls. of oil on completion test.

Butler County

National Refining Co. No. 1 McCullough, NE NE SW section 1-28-6, wildcat east of the Kramer pool in Butler County, opened a new Wilcox sand pool. It had Wilcox sand at 3,169-75 feet, total depth, established 24-hour potential of 107 bbls. of oil and was completed.

Another Butler County wildcat completion was a failure. Pryor & Lockhart No. 1 Boucher, NW cor. section 19-27-4, had Kansas City lime at 2,-

251 feet, total depth 2,287 feet, with water in the hole, and was dry and abandoned.

The only new test in Butler County was the Western Kansas Oil & Refining Co. No. 2 King & Marshall, SW SW NW section 11-28-6, location.

Greenwood County

Tide Water Oil Co. and Great Southern Oil Co. No. 12 Stephenson, C E half E half SE section 2-26-8, produced 20 bbls. of oil after a shot with 60 quarts and was completed; this Greenwood County well topped sand at 2,345 feet and drilled to 2,407 feet, total depth.

One new test was reported in Greenwood County. It is the Absher and others No. 1-A Gruber, SE SW SW section 33-22-13, location.

Stevens County

Another gasser was completed in the Hugoton area of Stevens County. Stevens County Oil & Gas Co. No. 1 Young, C SW section 11-34-39w, had best pay at 2,751-53 feet, total depth, produced 9,331,000 feet of gas daily, with 420 pounds rock pressure, and was completed.

New Locations

New tests in Ellis County follow: Blackwell Oil & Gas Co. and others No. 1 Solomon, SE SE SW section 28-11-19w, wildcat, location; Twin Drilling Co. No. 1 Reidel, SW SW NE section 27-13-16w, location, wildcat.

One new test for Scott County was the Atlantic Oil Producing Co. No. 1 Mark-B, C NW SW section 14-20-33w, location.

One new test was reported in Woodson County. Shaffer & Howell No. 1 Haas, SE cor. section 22-23-14, was drilling at 850 feet.

Canadian Fields

(Continued from Page 69)

coal market at 2,156 feet while the top of the Paleozoic lime was encountered at 2,321 feet. It deepened 564 feet in the lime before shutting down, but encountered no commercial production. It will be continued as a deep test of the lower lime, and may be drilled into underlying formations. The Wainwright field has yielded small quantities of heavy asphaltic crude from wells carried to the Wainwright sand of the lower Cretaceous, but no test has been drilled to conclusive depth in the lower lime.

Pacalta Operations

Pacalta Oils, Ltd., of Vancouver, British Columbia, which has one producing well in LSD 7, section 28-18-2w5, South Turner Valley, has been acquiring additional acreage on a number of other Alberta structures. The new Pacalta holdings include leases on the Aldersyde structure east of Turner Valley, on the Highwood-Sinclair structure offsetting Maple Leaf Royalties No. 1, near Weymarn Petroleums No. 2 on the Pincher Creek structure, and on the Del Bonita structure south of Lethbridge. Should any of the tests now drilling in these areas secure commercial production, the Pacalta company will probably undertake development work on its holdings.

Drilling in Ontario

In the Dover field, Kent County, Ontario, Central Pipe Line Co. No. 5, Eli Jubenville farm, Lot 2, Front Concession, Dover West Township, is shut down at 2,200 feet. Central Pipe Line Co. No. 4, John Jubenville farm, Dover West Township, is standing in the Trenton limestone at 3,360 feet, waiting to be cleaned out after a shot. In the southeast extension of the field, south of the River Thames, E. P. Rowe No. 2, Louis Bruette farm, Lot 5, Front Concession, Raleigh Township, is below 2,400 feet.

In the Tilbury field, Kent County, Kent Oil & Gas Syndicate No. 1, Mrs. Beatrice Gifford farm, Lot 10, Concession 14, Tilbury East Township, is pulling pipe and abandoning the well at 840 feet.

In the Dawn field, Lambton County, G. F. Gregory & Son No. 1, Lot 22, Concession 3, Dawn Township, is fishing at 1,150 feet. G. F. Gregory & Son No. 2, Lot 22, Concession 2, is shut down temporarily.

In the Eden field, Elgin County, Olga Oil & Gas Co. No. 2, Claude A. Wilson farm, Lot 24, Concession 8, Bayham Township, is ready to spud. Location is about 1,500 feet west of Olga No. 1 Wilson, which finished with 619,000 feet a day from the sweet gas sand at 1,325 feet. E. P. Rowe No. 3 has been spotted south and west of No. 2 on the Ball farm. M. G. Dean No. 1, northeast of the proven field, is drilling below 1,010 feet.

In Norfolk County, Dominion Natural Gas Co. No. 1 on Clear Creek, in the south end of Houghton Township about 8 miles west of Port Rowan has spudded.

Drilling Contractors

(Continued from Page 59)

was originally drilled to 6,040 feet and was plugged back and sidetracked at 5,486 feet. At 5,580 feet the old hole was drilled into and it is now being plugged back.

Ben (Bud) Coyle is drilling below 1,200 feet on No. 1 Watkins at Port Barre for Pan American Producing Co. and in the Jeanerette field for Herton Oil Co. No. 2 Roane is drilling ahead below 5,700 feet.

Al Buchanan of San Antonio is operating 14 drilling rigs in San Patricio and Duval Counties, Southwest Texas. One wildcat is being drilled for the Stanolind Oil & Gas Co. in San Patricio County. The balance of his rigs are on proven locations in the Plymouth, Loma Novia and Seven Sisters fields, drilling for seven oil companies.

Southwestern Drilling Co. of San Antonio is moving in on a wildcat location south of the Lopez field in Webb County.

Canadian Tariff

OTTAWA, Ontario, Feb. 15.—It is unofficially forecasted that at the coming session of the federal parliament some reductions of the tariff on gasoline will be made. A reduction of the present 2¼ cents a gallon tariff to 1 cent a gallon is expected; accompanied by some drastic changes in the tariff structure. The present system of testing the quality of gasoline for duty purposes will probably be abolished and the Baume or other tests adopted.

An investigation of the gasoline tariff, undertaken last year by the federal tariff board at the instance of the preceding government, has not yet been completed but its report may be available in time for the parliamentary session.

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Michigan Field Report

FOUR MORE OIL WELLS AND TWO GAS WELLS COMPLETED

By
PAUL A. ELLIOTT

MUSKEGON, Mich., Feb. 17.—Snowdrifts that marooned oil men and thousands of other residents of Michigan last week during two more of a succession of four blizzards, each worse than the former in its demoralizing effect on all forms of transportation, failed to halt the drillers of seven tests completed for more than 1,000 bbls. of new initial oil production and about 50,000,000 feet of initial gas production.

Of the four new oil wells completed last week, the two largest were in the older Porter and Jasper Township fields of Midland County, but the other two were in Ogemaw County, where the lowest of subzero temperatures prevailed during the state's greatest and most sustained cold wave in more than 40 years.

Two large gassers were brought in in the Millbrook - Hinton - Belvidere Townships field, largest in the state boosting its open flow capacity over 500,000,000 feet a day. One dry hole was finished in Mecosta County, another hard-hit storm section of Michigan oil and gas fields. A small gasser was completed in Gratiot County.

While Michigan operators struggled to keep their tools running in the face of snow-laden gales, average daily production of crude oil slumped to its lowest point since early in 1935 largely because of strenuous winter production problems in the northern state.

Average daily production for the week ended Saturday, February 8, dropped from 40,180 bbls. the week before to 33,772 bbls. The decline by fields was as follows: Porter-Yost, 19,726 to 17,936 bbls.; Greendale-Chippewa, 2,893 to 2,129; Vernon-Leaton to 1,920; Crystal-Montcalm, 12,739 to 9,982; Home-Montcalm, 378 to 180; Ogemaw, 1,668 to 1,521; Beaverton, 336 to 415; Birch Run-Saginaw, 257 to 238; Muskegon-Oceana, 182 to 202; Saginaw, 46 both weeks; Tuscola, 15 to 10; Vickeryville, 10 to 13, and Hemlock, 10 to 0.

Daily runs during January averaged 40,286 bbls. per day, however, the Porter field alone leading the 13 producing areas of the state with Crystal-Montcalm still in second place. The former made 15,792 bbls. daily compared with 13,311 bbls. a day withdrawn from Crystal wells.

Ogemaw County

Melling Oil & Gas Co. No. 3 L. Roma, NW NW NW section 6-21n-3e, Mills Township, Ogemaw County, which was drilled to a total depth of 1,818 feet after topping the Traverse at 1,671 feet filled with oil and was reported good for about 80 bbls. a day.

Ide and Glavin No. 3 Gas Co. No. 2 U. and E. Wilcox, SW NW NW section 28-22n-2e, West Branch Township, filled about 1,500 feet with oil after being drilled to 2,713 feet from the Dundee, top at 2,533 feet. It was expected to make commercial production after being acid treated.

Porter-Midland

Pure Oil Co. completed two Dundee wells. No. 21 Mina Narmore, NW NE SW section 15-13n-1w, Porter-Midland, flowed about 750 bbls. a day when drilled to 3,425 feet. In Jasper Township, Pure finished No. 2 D. Alspaugh, C S SE NW section 2-13n-2w, for an initial output of 225 bbls. a day but was expected to be increased by acid treatment at a total depth of 3,432 feet.

Gassers

Largest of three new gassers in the Michigan Stray sands was the Superior Drilling & Producing Co. No. 2 Milon Eckert, C NW NE section 10-12n-7w, Belvidere Township, Montcalm County. It had an initial flow of more than 32,500,000 feet a day when drilled into the shallow gas sands topped at 1,260 feet. First gas was encountered at 1,265 feet and drilling completed at 1,282 feet when it blew the mercury out of the gauge.

The Superior Co. No. 1 Eckert, C SW NE section 10, was ready to drill in at 1,225 feet. Both were started at the same time but the No. 2 was drilled with a rotary and No. 1 with cable tools.

Charles Bell No. 1 L. C. Culey, C SE SW section 30-13n-7w, Millbrook Township, Mecosta County, which previously made 12,000,000 feet a day from the Michigan sands, was completed with an open flow capacity of 13,000,000 feet daily at 1,303 feet. The Stray sand was topped at 1,288 feet.

In Austin Township, Mecosta County, Taggart Brothers, Inc., No. 20 J. M. McKeough was abandoned as an unsuccessful deep test to a depth of 4,042 feet in the Austin-Mecosta gas area.

A new Gratiot County gasser was completed near the Crystal oil field, Barhky Gas Co. No. 1 Prine estate, C SW SW section 34-11n-4w, Sumner Township, made an open flow of about 4,000,000 feet a day from the Michigan sands.

One of the most interesting of tests in the state was Socony-Vacuum Oil Co. No. 1 R. P. McCarbery, NW NE NW section 36-5s-5e, Macon Township, Lenawee County, shot with a charge of 160 quarts of nitroglycerin in the Trenton just before the big storms. The Trenton limestone was topped at 2,450 feet and the hole drilled to a total depth of 2,552 feet before drilling was suspended for the shot.

The shot collapsed the casing, necessitating its removal thereby delaying final completion figures. Three other tests were being drilled in the Lenawee-Monroe County area in the southeast corner of the state.

Smith Petroleum Co. No. 1 Boyce Farm Co., a Tuscola County wildcat producer brought in several weeks ago indicating a new east central Michigan field near Saginaw, was given another heavy shot with unknown results in the Traverse pay sands.

The A. V. Oil & Gas Co. No. 1 Vandercook, SE NE section 30-6s-6e, Dundee Township, Monroe County, may be plugged back to gas at 980 feet after failure as a deeper test. Same company's No. 1 Frank Roe, SE SE SW section 19, same township, was shut down with a string of casing in the hole 960 feet deep.

Severe weather conditions have delayed further testing of Brehm & Hollman No. 1 McCann, brought in two weeks ago with an initial flow of 20 bbls. an hour. It is the second well in a portable new central Michigan field and is located NW NW SE section 20-15n-2w, Geneva Township, Midland County.

Isabella County

Chartiers Oil Co. decided to continue to the Dundee in its No. 1 Frank Mumy, NE NE NW section 3-14n-3w, Chippewa Township, Isabella County after testing a show in the Traverse limestone.

The next completion in the Dundee, however, is expected to be T. T. Hawksworth No. 1 State Department of Conservation, SE NW SW section 34-15n-3w, Denver Township, Isabella County.

Chartier Co. No. 2 West, section 12, Isabella Township, is being tested after acid treatment in the Dundee. Limestone was topped at 3,656 feet and drilling suspended at 3,711 feet.

New Locations

Although only six permits were issued by the state conservation department during the week of February 9 to 12, double this number of new locations were made.

The new permits included three wildcats and three in or near proved sections. Two of the wildcats were for new tests in Tuscola County as follows: Muskegon Development Co. and Tuscola Oil & Gas Co. No. 1 Mary E. Casey, NW NW SW section 9-12n-10e, Wells Township, and Smith Petroleum Co. No. 1 Frances M. McComb, NW SW SE section 31-10n-8e, Millington Township. The third will be drilled by the Old Dutch Oil & Gas Co. on the A. N. Russell lease, SW SE SW section 29-10n-6w, Evergreen Township, Montcalm County.

King Drilling Co. took out a permit for No. 1 George Gould, SW NW NE section 19-15n-2w, Geneva Township, near the Brehm-Hollman wells. Pure Oil Co. added a permit for the No. 22 Mina C. Narmore, C S half N half SW section 15-13n-1w, Porter Township, Midland County. McPherson & Co. will drill No. 1 George Sharrar, NE SW SW section 11-11n-4w, in Sumner Township, Gratiot County.

Permit originally issued to C. R. Gallagher for No. 1 Lindsay has been cancelled and transferred to McClanahan Oil Co. No. 2 Frank and Joseph Heintz, NW NE NE section 24-22n-1e, Ogemaw Township and County.

Similarly a permit first issued to the King Drilling Co. for No. 8 Township School District in Ferris Township, has been cancelled and transferred to John F. Martin No. 1 H. P. Christensen, SE SE NW section 20-10n-2w, another Evergreen Township, Montcalm County test.

The McGargle Oil Explorations Co. has leased a block of acreage in Richland Township, Ogemaw County, and will drill the first test on the Prescott estate, NW SW SW section 32-21n-4e, about three-quarters of a mile east of the Thompson Brothers first successful well in the township.

Former Governor William A. Comstock is associated with Robert Herndon, Detroit realtor, and others for development of a tract of 5,000 acres in Almer, Ellington, Indianfield and Wells Townships, Tuscola County.

The Muskegon Development Co. will drill the first test for the Detroit interests on a site yet to be announced.

T. F. Caldwell, Inc. is reported planning a new Saginaw wildcat in Taymouth Township. Ross and Bernier also will drill the No. 1 John J. Bale estate, in section 31, Millbrook Township, instead of the No. 1 Kielholtz.

Max Pray will drill another Home Township, Montcalm County wildcat test four locations north of his recent unsuccessful No. 1 Skinner in section 9.

Charles Bell is planning No. 1 Bailey east of the No. 1 Culey just completed as a 13,000,000-foot gasser in the Michigan Stray sands.

Consolidated Petroleum Producers, Inc. soon will start the second of a series of 16 wells to be drilled in Ogemaw County. The new test will be a south offset to the same company's No. 1 Crow.

By a vote of 128 to 3, Indian residents of Walpole Island, a Canadian possession in the St. Clair River, turned down a proposal to permit Fred H. Merritt, Oklahoma mineralogist, to start a wildcat on the island.

Ontario Tax

TORONTO, Ontario, Feb. 15.—The Ontario government will amend the present gasoline tax to provide for taxation of distillates and gasoline by-products. The amendment is designed to check the practice of mixing kerosene, benzine and similar previously untaxed products with small quantities of high grade gasoline.

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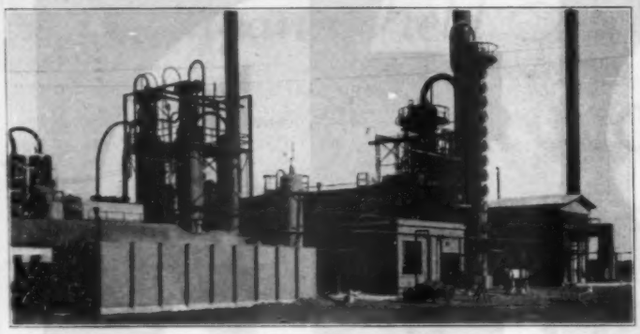

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GEOLOGY OF PETROLEUM

By Dr. WILLIAM HARVEY EMMONS
Head, Department of Geology and Mineralogy, University of Minnesota

1931 edition; 736 pages; 435 illustrations

L. G. E. Bignell, Petroleum Engineering Editor, The Oil and Gas Journal, says in his review of this book:

In preparing this book Doctor Emmons had in mind presenting to the public a textbook and a brief compendium or manual relating to the geology and deposits of oil-bearing areas. Essentially all of the world's oil fields are briefly treated, with references to the important literature.

This book should find a place in every oil man's library, for it will serve as a ready reference to many geological problems that will come up in the course of his work, and also as a means of securing general geological data upon most of the important fields in this and foreign countries.

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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Feb. 17.—Completions were few in the Central West, due to heavy weather. In the Tiffin field in Seneca County, numerous locations have been staked out, mostly for gas. Harpster & Donnell No. 3 Nicholas Weber, section 34, Liberty Township, is a gas well at 495 feet. In Hopewell Township, William McPharon & Co. No. 5 Frank Fox, section 11, produced an initial of 1 bbl. at 1,495 feet. J. L. Barnett is drilling No. 1 T. N. Ensil, section 1, same township, and Murphy & Son No. 1 Simon-Werling, section 16, was dry at 1,523 feet.

In Wyandot County, Huston & Co. No. 1 David Heck, section 19, Crawford Township, is a gas well at 1,299 feet. In Wayne County, Ohio Fuel Gas Co. No. 1 Laura Williams, section 1, Clinton Township, is a gas well at 3,188 feet. In Chester Township, the same company is drilling No. 1 Eli S. Finley, Section 31, and has made a location for No. 1 Dennis Hiner, section 29.

In Tuscarawas County, Columbia Carbon Co. No. 1 Lawrence S. Scharr, section 1, Warwick Township, is a gas well at 5,053 feet.

In Stark County, Brendel Producers No. 1 Danemiller Land Co., section 13, Perry Township, is a gas well at 4,490 feet. In Lawrence Township, East Ohio Gas Co. No. 1 John B. Smith, section 1, was dry at 4,215 feet. East Ohio Gas Co. is drilling on the R. V. Mitchell farm, section 27, and No. 1 F. & E. Kiko, section 8, same township. Fulton Oil & Gas Co. is starting a test on the Milton Surbey farm, section 7, Plain Township, East Ohio Gas Co., has a rig on the Amanda Smith farm, section 4, Jackson Township.

Pfeiffer & Co. No. 1 Joe Green, section 2, Washington Township, Harrison County, is a light gas well at 879 feet.

In Holmes County, Ohio Fuel Gas Co. No. 1 Nettie A. Martin, Lot 11, Mechanice Township, is a gas well at 3,329 feet.

In Perry County, Monroe Township, on the property of the Hemlock Coal Co., Kachelmacher Oil Co. No. 12 had an initial of 101 bbls. after being shot. It dropped to 30 bbls. the second 24 hours and was swabbed for 100 bbls. In Hocking County, Ward Township, Preston Oil Co. No. 127, on the S.C.C. Co. property, had an initial of 32 bbls. On the same property, rig has been built for Preston Oil Co. No. 129. In Morgan County, Ohio Fuel Gas Co. No. 3 N. M. Wood, section 34, Marion Township, was a gas well.

In Morgan County, Homer Township, Carpenter & Glazier No. 17 has machinery on location on the Lovell & Co. property. In Windsor Township, Burt & Son No. 15, F. and E. Tuttle, has been shut down until warmer weather. Kepple & Co. No. 13, same township, on the Vanfossen farm, has a fair showing of gas, but at present the hole is full of water.

In Hocking County, section 6, Ward Township, on the W. W. Acker & Co. property, Murray City Oil & Gas Co. No. 11 has been shut down. In the same township, Hope Construction & Refining Co. No. 8 J. Dunlap is having casing trouble.

Wehrle & Bailey No. 1 H. Beard, section 36, Thorn Township, Perry County, has a poor showing of gas, but is to be shot. Reading Township, Kissling Drilling Co. No. 5, on the Stoltz farm, has been shut down.

In Coshocton County, Graham Brothers are rigging up for No. 2 M. and G. Jones, Lot 12, Oxford Township. Capitol Drilling Co. No. 6, S. Asher farm, Tuscarawas County, is shut down pending orders.

KENTUCKY

The Kentucky fields are making a better showing than for a long period. In McLean County, Sunflower Oil & Gas Co. No. 1 near Livemore, was dry. Same company No. 6 H. Howard, produced an initial of 75 bbls. B. B. Oil Co. No. 1 Morton Heirs produced 200 bbls. Major Washburn No. 3 Shockley Bros., produced 225 bbls. initial, and Cameron & Thompson No. 4 J. F. Kerrick, produced 48 bbls. initial.

INDIANA

In Perry County, Haney & Hollingsworth No. 2 William Kress, section 9, is dry at 834 feet. Same company is drilling No. 1 Mannie Hauser, same township, and No. 1 T. and M. Schwartz, same section.

In Knox County, Phillips Petroleum Co. No. 4 M. E. Blann, section 15, Busseron Township, is dry.

In Knox County, Busseron, Township, O. A. Thayer No. 1 G. Winemiller, with a total depth of 821 feet, is dry. In section 23, same township, H. E. Foncannon No. 1 is being drilled on the C. E. Beard farm.

In Perry County, W. Stevenson No. 1 Riley Aders, Clark Township, section 24, is dry. In Clark Township, section 24, A. B. Bement No. 3 Hartwick, is drilling. Staves Drilling Co. No. 1 L. Herr, Troy Township, section 16, is shut down.

In Dearborn County, York Township, section 11, Dearborn Developing Corp. No. 1 J. Hornbach has a showing of oil around 2,000 feet.

J. L. Hasset No. 1 LaGrange, section 4, Franklin Township, Johnson County, has been shut down; total depth 1,550 feet.

In Daviess County, Harrison Township, Midwest Development Corp. is drilling No. 1 Mary Boyles, section 23, and No. 2 Ray Ragsdale in section 4.

Oklahoma Operations

By DAL DALRYMPLE

BILLINGS WILCOX SAND WELL IS ESTIMATED AT 20,000 BBLS.

The Wilcox sand gusher in the Billings pool in Noble County and the Simpson lime, or Ordovician, well in the Healdton field in Carter County were the highlights in current oil field news of Oklahoma. Inclement weather retarded operations somewhat, but did not stop work at the two new discoveries which oil men hailed as the "big Oklahoma news" for which they had been waiting during recent quiet months.

Phillips Petroleum Co. and Shell Petroleum Corp. No. 1 McCaughtry, NW NE NE section 21-23-2w, Wilcox sand discovery well on the west side of the Billings pool, was estimated as a 20,000-bbl. producer, or better. When opened for 28 minutes last week, it flowed 687 bbls.; then, the past week end it was opened again and flowed 2,021 bbls. in 2 hours and 40 minutes, with gas volume of 36,500,000 feet; shut-in pressure before opening was 950 pounds. Oil tested 42.6 degrees gravity, corrected. It is the first Wilcox sand production to be found in the Billings area, and makes promising a large area to the north and west of the pool in Noble, Garfield, Grant and Kay Counties.

At Healdton, in western Carter County, Sinclair Prairie Oil Co. No. 22 Million and Thomas, SE NE SW section 5-4s-3w, was drilling below 3,021 feet, in Simpson lime. It increased interest in the southern area last week when it encountered oil in the Ordovician horizon at about 3,006 feet. When opened last Saturday morning it flowed 39 bbls. of oil in five minutes, and previously had made a head flow of 172 bbls. in 17 minutes. It is an old well deepened from the shallow Healdton sands and opens a new pay horizon for that sector.

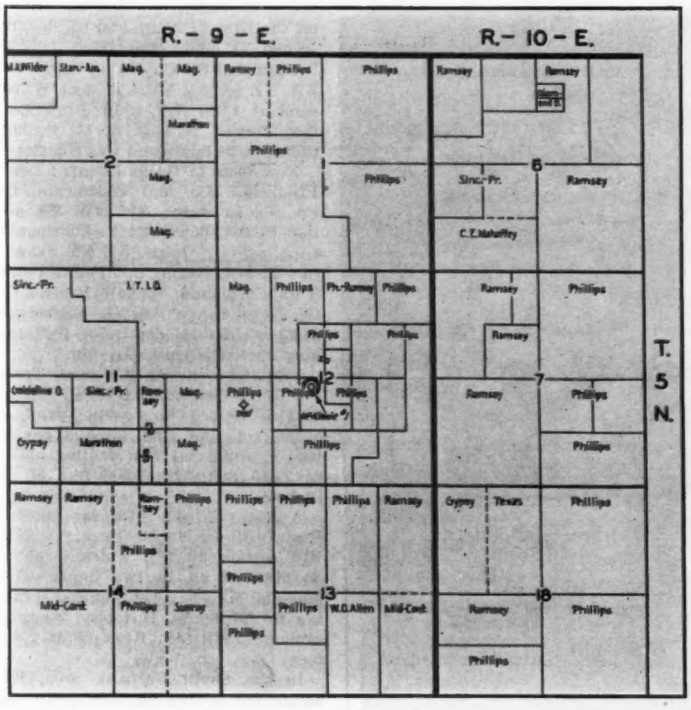
In the Fox field north of Healdton another Ordovician well, the Carter Oil Co. and others No. 1 Williams, SW NE SW section 27-2s-3w, was expected to find the deep pay horizon within the week. It was drilling below 7,420 feet in a new hole, after cementing off lost drill pipe. At old total depth of 8,088 feet, it uncovered production estimated at from 5,000 to 10,000 bbls. of oil daily from a new sand. Because of bad hole, engineers were unable to determine the exact source of the oil, but it was hailed as the first Ordovician discovery in southern Oklahoma.

Pontotoc County

All five Pontotoc completions were in the Fitts area. Harry Blackstock and others No. 1 Reese, C N half SE NE NE section 35-2-6, topped Bromide at 4,350 feet, first sand at 4,445-65 feet, total depth 4,480 feet, and flowed 390 bbls. of oil in 18 hours through tubing; after treating with 8,000 gallons, it established potential of 3,037 bbls. of oil in 24 hours.

Mid-Continent Petroleum Corp. No. 1 McKoy, SW cor. section 20-2-7, topped Viola lime at 3,990 feet, Bromide 4,285 feet, total depth 4,389 feet; was plugged back to 4,335 feet, flowed 110 bbls. of oil in 24 hours; was acidized, flowed 125 bbls. oil net in three hours through tubing, and made potential of 1,807 bbls. of oil.

Fleetborn & Simpson No. 3 Wooley, NW NE SE section 28-2-7, flowed 481 bbls. of oil in two and one-half hours through tubing, made potential of 4,486 bbls. of oil in 24 hours and was completed; top of Bromide was 3,910 feet, McLish 4,118 feet, total depth 4,282 feet.



Location of Phillips Petroleum Co. No. 1 McKinnie, in section 12-5-9, near Atwood, southwestern Hughes County, Okla.

(Mid-Continent Map Co., Tulsa, Okla.)

Skelly Oil Co. No. 5 Park College, SE SW NE section 28-2-7, had Bromide at 3,900 feet, McLish 4,102 feet, total depth 4,288 feet; flowed 918 bbls. of oil in four hours through tubing, established 24 hours potential of 5,346 bbls. of oil, completed.

E. H. Moore and others No. 8 Woodruff, SE NW SE section 29-2-7, old total depth 4,156 feet, was deepened; topped McLish at 4,170 feet, sandy Dolomite 4,280 feet, total depth 4,391 feet, made potential of 3,935 bbls. of oil and was recompleted.

New work in Pontotoc County: Harry Blackstock and J. J. Deaner No. 1 Moody, NE NE NE section 27-2-7, rig corners; Sinclair Prairie Oil Co. No. 4 Burris, SE NW NW section 27-2-7, cellar and pits; Magnolia Petroleum Corp. No. 2 Burris-B, NE SE NE section 28-2-7, building rig; same operators' No. 3 Burris-B, SE NE NE section 28-2-7, rig; E. H. Moore and others No. 8 Mack, SE SE SE section 28-2-7, location; same operators' No. 10 Mack, SW SE SE section 28-2-7, location; Skelly Oil Co. No. 8 Park College, NE SW NE section 28-2-7, moving in; same operator's No. 9 Park College, SE NW NE section 28-2-7, location; E. H. Moore and others No. 4-A Cradduck, SW SW SW section 29-2-7, location; same operators' No. 8-A Cradduck, SE SW SW section 29-2-7, location; same operators' No. 7 Harper, NW NW NE section 29-2-7, location; same operators' No. 8 Harper, NE NW NE section 29-2-7, location; same operators' No. 14 Schauers, NE NW NW section 29-2-7, location; same operators' No. 15 Schauers, NW NE NW section 29-2-7, location; same operators' No. 16 Schauers, NE NE NW section 29-2-7, location; same operators' No. 2 Woodruff, NW NE SE section 29-2-7, old well deepened, shut in at 4,334 feet after flowing 325 bbls. of oil in one hour at 4,251 feet; same operators' No. 3-A Woodruff, NE NW SE section 29-2-7, old total depth 4,164 feet, rig; same operators' No. 1-A Patrick, NW NW NE section 31-2-7, location; same operators' No. 3-A Patrick, SW NW NE section 31-2-7, location; same operators' No. 4-A Patrick, SE NW NE section 31-2-7, location; Mid-Continent Petroleum Corp. No. 1 Milligan, SE NE NE section 25-5-4, old total depth 2,346 feet, standardizing; W. A. Delaney No. 1 Constance, SE NE NE section 20-5-6, old total depth 1,875 feet, drilling at 1,928 feet.

Estimated Production

Estimated daily average production of Oklahoma for the week ending February 15 and for the preceding week is as follows:

	Barrels	
	Feb. 15	Feb. 8
Allen	6,775	6,800
Asher-West Asher	875	900
Burbank	7,800	7,800
South Burbank	12,250	11,750
Balance Osage	22,800	22,900
Blackwell	4,700	4,700
Bristow-Slick	8,700	8,725
Chandler	4,100	3,900
Crescent	5,100	4,500
Cromwell	3,900	3,900
Cushing-Shamrock	12,000	12,100
Duncan district	4,000	4,000
Edmond	10,100	6,725
Fish	11,200	9,550
Fitts	42,375	32,100
Gray	1,750	1,650
Graham	3,875	3,850
Healdton	9,000	8,950
Hewitt	4,400	4,425
Holdenville	1,125	1,150
Keokuk	5,100	2,750
Konawa	1,850	1,875
Lucien	10,500	10,300
Marshall-Lovell	1,000	1,000
Oklahoma City	153,125	139,150
Papoose	1,150	1,150
Polo	3,350	3,500
Sasakwa and townsite	3,175	3,725
Sholem-Alechem	3,525	3,500
Seminole field:		
Bowlegs	8,875	7,850
Carr City	5,675	3,450
Earlsboro	7,675	7,525
South Earlsboro	850	900
East Earlsboro	10,275	9,425
Little River	13,875	14,350
East Little River	1,100	1,100
Maud	975	975
Mission	2,550	2,400
Seminole	11,075	11,225
East Seminole	1,675	1,575
Searight	3,350	4,250
Total Seminole	67,950	65,025
St. Louis-Pearson	22,425	21,125
Tatums	3,750	3,600
Tonkawa-Garber-Thomas	5,500	5,450
Wewoka	3,850	3,900
Yale-Jennings	4,100	4,050
Other pools	57,600	56,500
Total Oklahoma	524,775	487,575

Near Completions

J. E. Crosbie, Inc., No. 2 Burris, SE SE NW section 27-2-7, topped Bromide at 2,975 feet, McLish 4,180 feet, total depth 4,273 feet, flowed 777 bbls. of oil in four hours, went dead, and was to rewash. Magnolia Petroleum Co. No. 1 Burris-A, NW SE NW section 27-2-7, flowed 315 bbls. of oil the first hour through casing and 800 bbls. in eight hours through tubing; top of Bromide was 4,010 feet; McLish, 4,225 feet; total depth 4,245 feet. Same operator's No. 2 Burris, NW SW NE section 27-2-7, had Bromide at 4,015 feet, McLish 4,239 feet, total depth 4,242 feet, flowed 1,213 bbls. of oil in seven hours and was acidized. Magnolia Petroleum Co. No. 1 Metropolitan Life Insurance Co., SW NW NE section 27-2-7, topped

Bromide at 4,100 feet, total depth 4,265 feet, was acidized and flowed 515 bbls. of oil in four hours through casing and tubing.

Carter Oil Co. No. 7 Smith, SE NE SW section 28-2-7, topped Bromide at 3,860 feet, McLish 4,065 feet, total depth 4,331 feet; flowed 157 bbls. of oil in four hours through tubing, and was to be acidized.

E. H. Moore and others No. 8 Wirick, SW NE SW section 29-2-7, found Bromide at 3,940 feet; was acidized at 3,950 feet and flowed 543 bbls. of oil gross in first hour and 118 bbls. net the second hour, and at 3,997 feet flowed 161 bbls. in one hour.

Oklahoma County

A producer and a dry hole made up Oklahoma County's completions of the week, both being in the Oklahoma City area. British American Oil Producing Co. No. 1 Kirsch, NE SW SW section 23-12-3w, was completed at total depth of 6,450 feet in second Wilcox sand topped at 6,315 feet. It produced 2,675 bbls. in six hours on potential test, giving it a 24-hour potential of 11,091 bbls.

Empire Oil & Refining Co. No. 1 Gustin, SW SW NE section 1-11-3w, the other Oklahoma County completion, was dry and abandoned. An old well deepened from 6,600 feet, it was drilled to total depth of 6,665 feet with no results, and plugging back and perforating the casing failed to help it.

Three new tests were started in Oklahoma County. British American Oil Producing Co. No. 1 Powell, NE NE SE section 22-12-3w, digging cellar and pits; Barnsdall Oil Co. No. 6 Bracht, NW SW SE SW section 23-12-3w, building rig; Slick-Urschel Oil Co. and others No. 2 McGrew, SE SW SW section 20-13-3w, digging cellar and pits.

Logan County

Springrose Drilling Co. and others No. 1 Wright, SW SW NW section 32-15-1, wildcat in southeastern Logan County, was plugged and abandoned at 5,827 feet after a Schlumberger test failed to show anything. Viola lime was topped at 5,539 feet; Simpson, 5,570 feet; first Wilcox sand, 5,679 feet and second Wilcox sand at 5,819 feet.

One new test was started on the Logan County side of the Lucien pool. It was the Stanolind Oil & Gas Co. No. 3 Pfeiffer, C S half SE SW section 33-20-2w, cellar.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 2 Pfeiffer, C N half SE SW section 33-20-2w, in the Logan County sector of the Lucien pool, topped Dolomite at 4,877 feet, steel line corrected measurement; had first sand at 4,892 feet, flowed 617 bbls. of oil in 24 hours from 4,900-02 feet, based sand at 4,912 feet, and was drilling at 4,968 feet.

Osage County

Carter Oil Co. and others No. 8 Higdon, SE NW NE section 3-25-6, in the South Burbank area of Osage County, topped Bartlesville sand at 2,819 feet, total depth 2,886 feet, flowed 1,417 bbls. in 19 hours, 1,683 bbls. in the next 23 hours it was open, and was completed with an estimated daily potential of 1,755 bbls. Gulf Oil Corp. No. 2 Revard, SW NW SE section 26-26-6, found the Bartlesville zone at 2,839 feet, total depth 2,914 feet; was plugged back to 2,881 feet, shot two times, swabbed 92 bbls. of oil the first 24 hours and 65 bbls. the second 24 hours, completed.

Barnsdall Oil Co. No. 13 Osage, SW SW NE section 10-21-12, had Wilcox sand at 1,849 feet, total depth 1,867 feet, flowed 16 bbls. of oil through tubing in 24 hours and was completed.

New tests in Osage County: Lewis Production Co. and Continental Oil Co. No. 12 Osage, SW NW SW section 16-24-7, building rig; Continental Oil Co. No. 2 Osage, NE NE SE section 21-24-7, rigging up; Peters Petroleum Corp. and Sinclair Prairie Oil Co. No. 6 Osage, SW SE NE section 24-24-7, old total depth 735 feet, rigging up to deepen to Layton.

Lewis Production Co. and Texas Co. No. 4 Osage, SE NW SE section 17-24-7, topped Bartlesville sand at 2,602 feet, had first oil and gas in top of sand, and was drilling ahead at 2,615 feet with 1,500 feet of oil in hole.

A test was scheduled for Sinclair Prairie Oil Co. No. 12 Osage, NW NW SW section 30-25-8, which swabbed 43 bbls. of oil in two hours after plugging back to 2,444 feet and standing for 24 hours. It topped Burgess sand at 2,438 feet, first oil at 2,443 feet.

In the South Burbank area, Kewanee Oil & Gas Co. was preparing to shoot No. 2 Hale, SE SW SE section 27-26-6. Bartlesville sand was topped at 2,870 feet, total depth 2,943 feet, and 250 feet of oil rose in the hole in 10 hours.

Seminole County

Francis Oil Co. No. 1 Welty, NE NE SE section 24-5-5, in the Byng area of Seminole County, topped Hunton lime at 2,383 feet, total depth 2,559 feet, was acidized and pumped 18 bbls. of oil net in 24 hours, completed. Other Seminole County completions failed to find commercial pay sands. Fortune Oil Co. and others No. 1 Harjo, NE NW SW section 11-6-6, was abandoned at 1,295 feet, total depth. Whelam & Warren No. 1 Scroggin, NE SW SW section 34-7-6, had oil and gas showing in sand at 2,875 feet, but water intruded at total depth of 2,901 feet, plugging back failed to help, and it was dry and abandoned. Mid-Continent Petroleum Corp. No. 1 Lincoln, NE NW NW section 33-9-6, topped first Wilcox sand at 4,157 feet, second Wilcox sand at 4,275 feet, had 500 feet of water in the hole at 4,445 feet, total depth, and was dry and abandoned.

New tests starting in Seminole County: Francis Oil Co. No. 2 Ragland, SE SW NW section 19-5-6, spudded; Magnolia Petroleum Co. No. 5 Reed, SW NE NW section 34-8-8, location; Amerada Petroleum Corp. and others No. 1 Stout, NE NE SW section 3-10-5, moving in tools; Carter Oil Co. No. 1 North, C W half SW SE section 11-10-6, building rig.

Continental Oil Co. No. 2 Milsey, SE SW SW section 11-7-6, in the Little River area of Seminole County, an old well deepening from 4,221 feet, swabbed 70 bbls. of oil in six hours at 4,312 feet, total depth, and was acidized.

In the Seminole pool, Manhattan Oil Co. No. 1-A Moore, SW NW NE section 25-9-6, was acidized at 4,005 feet, total depth, and flowed 50 bbls. of oil in one hour; Hunton lime was topped at 3,978 feet.

In the Keokuk area, Carter Oil Co. and Magnolia Petroleum Co. No. 2 Scott, topped Hunton lime at 4,124 feet, total depth 4,138 feet, and flowed 460 bbls. of oil in 19 hours through casing. Tom Phillips and others No. 1 Wright, C N half NE SE section 27-11-6, swabbed 140 feet of oil and 10 feet of water in one swab and swabbed dry; Hunton lime was topped at 4,149 feet, total depth 4,157 feet.

Hughes County

Another Senora sand oiler was completed in the Olympic pool of northeastern Hughes County. P. N. Stuart No. 2 McCaslin, NE cor. section 11-9-8, topped the sand at 1,718 feet, total depth 1,752 feet, was shot with 40 quarts and flowed 250 bbls. of oil in 18 hours, completed.

New work in Hughes County: Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Stewart, SE SE NW section 31-9-9, cellar and pits.

Pottawatomie County

Helmerich & Payne No. 2 Wilsie, SE SW SE section 7-7-4, in the St. Louis district of Pottawatomie County, topped Hunton lime at 3,755 feet, total depth 3,817 feet, was acidized and flowed 412 bbls. of oil in 48 hours, through tubing, completed. Phillaine Oil Co. No. 3 Garrett, NW SE NW section 28-7-4, topped Viola lime at 4,017 feet, Simpson Dolomite 4,112 feet, total depth 4,146 feet, and swabbed 760 bbls. of oil and 30 bbls. of water in 21 hours; on potential test it pumped 1,477 bbls. of oil in 48 hours, cutting 12½ per cent water, completed.

The following tests were started in Pottawatomie County: Magnolia Petroleum Co. No. 2 School Land, NW NW NW section 36-6-4, location; Hilton Phillips No. 2 Bettis, NW SE SW section 21-7-4, drilling at 390 feet; Maebris No. 2 Sullivan, NE NW NW section 34-7-4, rig.

In the Gray pool of southern Pottawatomie County, Huckleberry No. 3 Gray, SW cor. section 25-6-4, had sand at 2,915 feet, 2,944 feet total depth, and swabbed 100 bbls. of oil in 24 hours.

Okfuskee County

New work in Okfuskee County: Stekoll & McCann No. 3 Detzler, SW NE NE section 2-10-11, machine; Keaton-Gold No. 2-A Havel, C S half NE NW section 26-11-11, location.

In the Dill pool of Okfuskee County, Ralvern Oil Co. No. 2 Camp, C W half SW NW section 12-11-8, had top of Hunton lime at 3,901 feet, total

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depth 3,911 feet; was acidized, flowed 235 bbls. of oil in two hours and was killed by water. It was shut in 24 hours, flowed 115 bbls. of oil in one hour, and water again killed it. Rods were being installed.

Okmulgee County

Sinclair Prairie Oil Co. No. 2 Palmer, C NW SW section 29-13-12, in Okmulgee County, old total depth 2,365 feet, was deepened to Wilcox sand at 3,316 feet, 3,329 feet total depth, and swabbed 58 bbls. of oil in six hours.

The following tests were started in Okmulgee County: Stekoll and others No. 10-A Hawkins, SE NE SE section 6-11-12, machine; W. A. Anthony No. 1 fee, SW NE NE section 29-12-4, location; C. M. Vincent No. 1 Yarhola, SW SW NW section 18-13-11, location; A. G. Clark and others No. 4-A Steiger, SW SE SE section 22-13-12, location; Mack Drilling Co. No. 1-A Moore, NW NW NE section 31-13-14, drilling at 350 feet.

Creek County

Eric Oil Co. No. 1 Hawkins, SE NE SW section 15-18-8, Creek County, was completed as a 50-bbl. pumper in Red Fork sand at 2,682-2,739 feet. L. B. Jackson No. 6 Bear, SW SE SE section 35-18-8, had Jones formation at 1,566 to 1,593 feet, was shot, flowed 70 bbls. of oil in 24 hours, completed. Sinclair Prairie Oil Co. No. 3 Kochel, NE SW SE section 33-18-7, old well deepened from 2,648 feet to 2,654 feet, pumped 5 bbls. of oil after plugging back to 2,640 feet, recompleted.

The following new work in Creek County was reported: L. B. Jackson No. 4 Nolan, SE NW NE section 2-17-8, machine; Sinclair Prairie Oil Co. No. 18 Mickey, NE SE SE section 33-18-7, building rig.

Muskogee County

The single completion in Muskogee County, J. E. Rose No. 4 Jefferson, SE NW NW section 33-15-15, failed to find production in sand at 1,317-1,323 feet, and was abandoned at 1,487 feet, total depth.

Wagoner County

Dillard No. 1 Tiger, NE SE SE section 17-17-15, in Wagoner County, had sand at 1,886-95 feet, total depth 1,935 feet, was shot with 40 quarts, pumped 10 bbls. of oil and was completed.

Southwestern Oklahoma

Gulf Oil Corp. has completed another Cisco lime producer in the Humphreys area of southeastern Jackson County. It was the No. 2 Boucher, NE SW SW section 32-1-19w, which swabbed and flowed 337 bbls. of 38-gravity oil in 24 hours on completion test, from pay at 2,604-33 feet, total depth.

In Jefferson County, L. C. Heydrick No. 1 Seay, SE NW NW section 31-6-5w, wildcat south of the Spring area, was dry and abandoned at total depth of 2,107 feet in shale.

In Stephens County, George Pace and others No. 9 Allen, SE NE NE section 3-2s-8w, in the Empire area, had sand at 2,154-70 feet, total depth, pumped 35 bbls. of oil and 40 bbls. of water in 24 hours, completed.

New work in Jackson County: E. M. Mitchell and others No. 1 Guyrman, NW NE SW section 14-1-20w, cellar and pits; Gulf Oil Corp. No. 3 Boucher, SE NW SW section 32-1-19w, rig.

Only new test reported in Caddo County was the J. B. Nichlos No. 3 Royse, NW NW NE section 12-5-9w, moving in material.

O. P. Burnham and others No. 2 Guyrman, NE NW SW section 14-1-20w, in the Altus area of Jackson County, had Granite Wash at 1,517-29 feet, total depth 1,530 feet; perforated casing at 1,435-55 feet and 1,495-1,515 feet, and flowed 28 bbls. of oil in the first four hours. Burk Royalty Co. No. 4 Minor, NE SE NE section 15-1-20w, had Granite Wash at 1,285-1,312 feet and 1,452-53 feet, total depth, and was estimated good for 10 bbls. of oil a day; the crew was underreaming 6⅝-inch casing.

Carter County

Samedan Oil Co. No. 1-A Higgins-D, SE SE NW section 6-2s-2w, in the Wildcat Jim area of Carter County, had various sand series from 1,777 feet to 2,104 feet, and was completed at 2,175 feet, total depth, in shale, flowing 125 bbls. of oil in 24 hours.

Shell Petroleum Corp. No. 59 Wirt Franklin, NE NW NE section 8-4s-3w, had sand at 978-87 feet and 991-1,000 feet, drilled to 1,109 feet, total depth; plugged back to 1,000 feet and was completed as a 20-bbl. pumper.

New work in Carter County follows: Simpson-Feld Oil Co. No. 1 Byrd, SW SW SW section 4-2s-2w, rigging up rotary; Shell Petroleum Corp. No. 40 McClure, SE NE SW section 5-4s-2w, drilling with machine at 316 feet. Carter Oil Co. and others No. 1 Leon Voorhees, C SE SW section 34-5s-2w, wildcat in southern Carter County, near the Love County line, location.

Southwest Texas Fields

(Continued from Page 72)

next few weeks. Farthest outpost well, Garland Clymore No. 1 Jonas Weil, 4,400 feet southeast of discovery, was testing sand at 4,299 feet at latest report.

The Saxet field, with 11 tests under way and beginning, also experienced an increase in activity, with the bulk of the operations centering in the Clarkwood area.

In San Patricio County, proven and wildcat operations continued somewhat abated. Five tests in the Plymouth field are active, two of them being on the sand. In the Taft field, Humble Oil & Refining Co. No. 1 Godwin was testing sand at 5,778-83 feet. Two wildcats are drilling, and a third is rigging up in the Taft-Plymouth area. Announcement of two deep wildcat tests will be made shortly by operators in the county.

A slight resumption of activity in the Jacob-Calliham district of McMullen County resulted during the week from operations of several oil companies now getting under way. Bee County operators were watching the Church No. 1 Webb-Hearn, southeast of Beeville, which was flowing some salt water after showing for production last week, and two new wildcat tests drilling below 2,500 feet.

Details on the completed wells mentioned in the foregoing report will be found in the drilling report of proven and wildcat areas on Page 88.

Canadian Sales

OTTAWA, Ontario, Feb. 15.—Canadian gasoline sales in October, 1935, were reported to the Department of Trade and Commerce at Ottawa by seven of the nine provinces, with increases shown in Prince Edward Island, New Brunswick, Quebec, Mani-

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toba and British Columbia and decreases in Ontario and Alberta, Nova Scotia and Saskatchewan did not report. For the 10 months of 1935 all the seven provinces importing showed increased sales over the corresponding 1934 period.

Canadian Imports

OTTAWA, Ontario, Feb. 15.—Imports of petroleum, asphalt and their products into Canada in November, 1935, were valued at $4,918,747 compared with $5,117,182 in October. Sources of supply, with percentages, were: United States, 67.8; Peru, 13.7; Colombia, 11.6; Venezuela, 4; Dutch West Indies, 2.1 per cent.

Imports of crude petroleum in November advanced 2.7 per cent to 137,399,424 gallons from 133,728,567 gallons in October, and consisted of, United States, 90,557,834 gallons; Colombia, 19,750,390; Peru, 15,803,797; Venezuela, 11,287,403.

Exports of petroleum and its products from Canada in November were valued at $202,820 against $89,119 in October.

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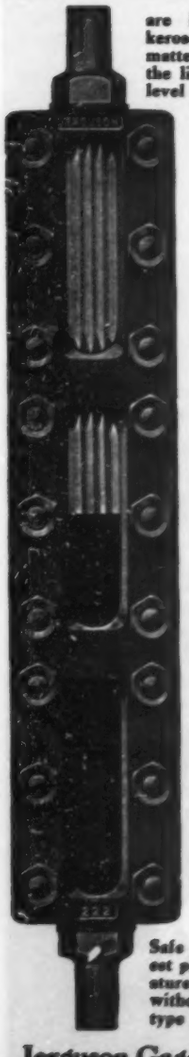

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Turner Valley Conservation and Production Problems

CALGARY, Alberta, Feb. 17.—Production and conservation problems in the Turner Valley field were dealt with in a paper given before the Oil and Gas Association of Alberta by Charles W. Dingman, director of the petroleum and natural gas division of Alberta lands and mines department.

Mr. Dingman pointed out that the divided ownership of the Turner Valley field and the complex geological conditions which made so many of the wells speculative or wildcat ventures have resulted in highly competitive production methods, such as the drilling of too many wells, heavy overproduction, and many of the wasteful methods accompanying this type of development. The department is not endeavoring to conserve this gas as an eventually marketable product, but its endeavors are toward the production of the wells in such a manner that the greatest naphtha recovery will be obtained before the gas, which is a force necessary to naphtha production, is depleted. It is endeavoring to accomplish this result without unduly retarding the rate of recovery and in a manner as equitable to all operators as possible.

The drop in pressures indicated by tests made by the department in the past four years indicates that a large proportion of the gas has already been withdrawn. Due to this withdrawal, the pressure has been greatly reduced in the older parts of the field and the pressure decline in the new southern end of the field is very rapid. As the field pressure declines, the rate of recovery of naphtha per unit of gas also drops. The figures hereunder are an approximation of this drop in the rate of naphtha production:

24-hour casing pressure	Gals. per 1,000 feet
2,000	1,155
1,900	1,155
1,800	1,000
1,700	1,000
1,600	875
1,500	735
1,400	595
1,300	490
1,200	385
1,100	315
1,000	245
900	175
800	105
700	70
600	52
500	35-52
400	35

Recovery of nahtha per unit of gas can be materially raised or lowered by the methods of operating the wells.

During the last half of 1930, the amount of naphtha produced in the field increased considerably, but the recovery per unit of gas decreased very greatly. While several new wells increased the total output of the field, the older areas, having lost considerable of their pressure, were producing much less naphtha per unit of gas withdrawn.

In May, 1930, the rate of naphtha recovery was 530 gallons per 1,000,000 feet; and in the following November this had dropped to 340 gallons; or a proportionate recovery of only 64 per cent of that in May. In 1931 the naphtha production declined very heavily, the high point of December, 1930, being 5,348 bbls. a day which dropped in October, 1931, to 2,602 bbls. a day. The recovery per unit of gas dropped still faster, being in October, 1931, only 248 gallons per 1,000,000 feet, 47 per cent of the recovery of May, 1930.

In the spring of 1932 an endeavor was made to increase the production of the wells by further opening them up, which resulted in an increased gas wastage with no corresponding increase in naphtha output. By April, 1932, the recovery was reduced to 209 gallons per 1,000,000 feet, or 39 per cent of the May, 1930 recovery.

During the summer and fall of 1932 the production of the field was controlled by the Turner Valley Gas Conservation Board with authority to reduce the total gas production of the field to 200,000,000 feet a day. In the last five months of 1932 under proration gas was withdrawn at an average rate of 224,000,000 feet a day. The results show that in April, 1932, with production of 436,000,000 feet a day, naphtha recovery was 2,609 bbls., or 51 per cent; in the last five months of 1932, averaging 224,000,000 feet a day, naphtha recovery was 2,073 bbls. or 80 per cent. "The recovery, therefore, 'increased 59 per cent on a drop in naphtha production of 20 per cent based on the May, 1930, recovery rate previously referred to of 520 gallons per 1,000,000 feet, increased from 39 to 62 per cent."

During 1933-34 production has been maintained at over 2,000 bbls. a day with a somewhat increased flow of gas. Due to the bringing in of new wells in the higher pressure area in the south end of the field and a reduction in the production of older wells in the lower pressure area, there was no very great change in the production of gas and naphtha, although due to these conditions the recovery per unit of gas in the latter part of 1934 was considerably higher.

Since the beginning of 1935 withdrawals of gas have increased slightly, whereas the production of naphtha has decreased until in November —the last figures available—the recovery was at the rate of 243 gallons per 1,000,000, a reduction from the recovery rate at the end of 1932 of 25 per cent.

The production referred to is that obtained solely from separators, as for purposes of comparison it is necessary to consider the same production methods. Since the gas after leaving the separators has been processed by the absorption plants the total recoveries have been greatly increased, in many cases the absorption plant recovery being larger than that of the separator.

However, the naphtha that is bypassed and left in the ground by the too rapid production of gas is never recovered, unless some type of repressuring or flooding is resorted to. This, while economically feasible, will be a much more expensive method of recovery. The absorption plant method is of course more expensive than the use of separators.

While the department raises no objection to the wastage of gas as a commodity of value in itself, it is endeavoring to regulate the production in the field so that the greatest naphtha recovery can be secured before the gas is depleted. To carry out this program, quotas have been issued to each well since 1932 based upon yearly tests. This is authorized by the Petroleum and Natural Gas Regulations and the regulations under the Act Respecting Drilling and Production Operations of Oil and Natural Gas Wells. This stipulates a restriction to 40 per cent of potential capacity.

As the taking of open flow tests is exceedingly wasteful and in some of the higher pressure wells very dangerous, the practice has been to measure the production of gas at two-thirds the closed-in pressure and take as quota 60 per cent of this; which is considered to approximate 40 per cent of the open flow. This quota it is felt will provide the maximum naphtha production with a considerably reduced waste of gas and without retarding the taking of production to a very large extent and is an equitable adjustment between wells. There are excepional wells where this method of computing the quotas does not appear equitable, and upon request these will be given 40 per cent of open flow. The quota regulation provided for monthly tests; but to avoid expense and gas wastage, tests have been made at yearly intervals only.

The quotas based on these tests are, of course, really only applicable at the time the tests are made; and where the capacity of the well declines rapidly the quota is soon very high. Quotas now in effect are over 16 months old.

Illustrations of this decline are given.

Well "A" 1934. Approximate quota, 10,000,000 feet; 1935, approximate quota, 8,000,000 feet. If the decline has continued at the same rate as during that period, the quota would not be in the neighborhood of 7,250,000 feet. This well is now being produced at less than the 1934 quota.

Well "B" 1934. Approximate quota, 4,200,000 feet; 1935, approximate quota, 2,700,000 feet. With the same decline rate the quota should now approximate 2,200,000 feet. The operator of this well reported that last November it produced at a rate of 4,500,000 feet a day.

The separator recovery on Well "A" was at the rate of 463 gallons per 1,000,000 feet compared with 231 gallons on well "B", or the recovery was double.

Not only are the quotas now in effect considerably too large on many of the wells but they are inequitable. With some of the wells potential capacity in August, 1935, was higher than the year before, while in others the potential capacity declined very heavily. A survey of 84 wells where the quotas are comparable shows that in the 1935 list of quotas, 34 wells had quotas 100 to 177 per cent of 1934; 30 had quotas 80 to 99 per cent; 14 had quotas 70 to 79 per cent and 6 had quotas 59 to 69 per cent. Taking only comparable wells, the 1935 quotas are 93.7 per cent of those issued in 1934.

At the present time many wells in the lower pressure areas cannot produce the full volume of their quotas with a back pressure sufficient to carry the tail gas to and through the absorption plant. In the higher pressure areas, however, although the majority of the operators realize that the wells are being uneconomically produced, they are helpless to control the few who are apparently interested only in the maximum amount of naphtha obtainable from the wells at the present time with no regard to the ultimate recovery from the field.

WILDCAT OPERATIONS

OKLAHOMA WILDCATS

Week Ending February 15

NORTHERN OKLAHOMA

Alfalfa County

Tex-O-Kan. Oil Co. No. 1 Acre, C SW NE sec. 14-24-11w.
Sylvan shale 7,065 ft.; Wilcox sand 7,259 ft.; Schlumberger test showed porosity at 5,910 ft. and at 6,400-6,500 ft.; S.D. 7,325 ft.

Beaver County

Anderson & Kerr et al No. 1 Davis, C SW SE sec. 36-5-26 (Cimarron Meridian).
Mississippi lime 6,775 ft.; T.D. 6,794 ft.; S.D.

Beckham County

Speed & Barker No. 1 Stephens, SW SW NW sec. 19-9-22w.
Rig on ground.

Wood Pet. & Royalty Corp. No. 1 Blair, C NW SE sec. 32-9-26w.
Drlg. 1,670 ft.

Caddo County

Denver Prod. & Ref. Co. No. 1 Sah-Can, C SE SE Sec. 33-10-10w.
Oil-stained sand at 9,906-26 ft.; drlg. 9,990 ft.

H. W. Lee et al No. 1 Horton, NE cor. Sec. 9-6-13w.
S.D. at 2,001 ft.

F. A. Turner et al No. 1 Sapin, NE NE SW Sec. 1-5-11w.
T.D. 3,440 ft.; S.D.

Cleveland County

Asa Lee Mayes, Inc. No. 1 Parsons, SW SW SE Sec. 30-9-1.
S.D. at 3,500 ft.

Hall-Briscoe, Inc. No. 1 Fant, SW SW NE Sec. 27-10-2w.
S.D. at 7,511 ft.

Coal County

Shell Pet. Corp. No. 3 Hill, SE SE NW sec. 30-3-10.
Sand 1,520 ft.; McAllister series 1,600 ft.; Atoka shale 2,380 ft.; drlg. 3,562 ft.

Comanche County

T. H. McCasland et al No. 1-A Smith, SW cor. sec. 12-2n-10w.
Drlg. 50 ft.

N. E. Mieling No. 1 Miller, NE NE SW sec. 23-4-12w.
T.D. 530 ft.; S.D. for csg.

John Nicholas No. 1 Householder, NE NE SW sec. 8-2-10w.
T.D. 960 ft.; S.D.

Geo. Pace et al No. 1 Spencer, SW cor. SE sec. 21-3-10w.
T.D. 4,164 ft. in Granite wash; P.G. to 1,850 ft.; re-cmtd. hole from 1,853 to 1,684 ft.; drlg. cmt. 1,680 ft.

J. Phillips No. 1 Head, N½ NW SW sec. 29-4-11w.
Rigged up; S.D.

Garfield County

Herndon Drlg. Co. et al No. 1 Branson, SW SW SE sec. 23-24-3w.
Rigging up rotary.

Earl McBride et al No. 1 Gage estate, SE NW sec. 27-22-3w.
S.D. at 1,099 ft.

W. J. Sherry et al No. 1 Haken, NW NW SW sec. 32-20-10w.
Drlg. 4,302 ft.

Stanolind O. & G. Co. et al No. 1 Brunken, SW SW NE sec. 32-23-4w.
Rig.

Garvin County

Chas. E. Carter et al No. 1 Wood, NW SW SE sec. 5-4-3.
Old T.D. 2,405 ft.; to deepen.

Suggett & McElreath No. 1 Hyre, NE NE SE sec. 23-3-1w.
Drlg. 3,718 ft.

Grant County

Southern Oil Co. et al No. 1 Allen, SW SE sec. 36-26-4w.
S.D. 5,505 ft.

Hughes County

Brady Oil Co. No. 1 Culver, NE SE NW Sec. 35-7-9.
Location

W. P. Canavan No. 1 Meadors, SE NE SE sec. 5-8-10.
Glicrease 2,600 ft.; Wapanucka 3,050 ft.; Cromwell 3,058 ft.; W.O.C.

M. H. Halsey No. 1-A Eustep, NW NW SW sec. 11-8-9.
Wapanucka 3,428 ft.; Cromwell 3,462 ft.; T.D. 3,484 ft.; 2 bailers wtr. an hr.; P.B. and shot. 3,036-45 ft.; est. 10,000,000 ft. of gas; P.B. to 3,412 ft.; re-shot.

Phillips Pet. Co. No. 1 Eberle, NE NE SW sec. 12-5-9.
Moving in material.

Schumacher et al No. 1 Schumacher, NE NW NE Sec. 23-5-10.
S.D. 1,610 ft.

Sivalls et al No. 1 Montgomery, NW SW NW Sec. 7-9-9.
T.D. 2,040 ft.; U.R. 8-in. pipe.

Kay County

Ben Head et al No. 1 Bealveal, SW cor. Sec. 8-25-1w.
Rigging up rotary at 50 ft.

Black Gold Pet. Co. No. 1 Cooley, NE NW SW sec. 25-28-4e.
S.D. 875 ft.

Kiowa County

Beeler & Klein No. 1 Van Kirk, NE SW Sec. 35-7-15w.
T.D. 607 ft.; P.B. 380 ft.; testing; showing wtr.; S.D. for pipe.

Burns & Moore's No. 1 Webster, C NE NE sec. 2-6-17w.
Sand showing oil at 450-53 ft. and 456-58 ft.; T.D.; production est. at 8 bbls. daily; S.D. for pumping unit.

W. C. Adams et al No. 3 Stone, C SE NE sec. 34-7-17w.
Salt water 1,480-1,547 ft.; T.D.; plugged back to 960 ft.; acidized; production est. at 25 bbls. of oil a day.

J. C. Shaffer et al No. 1 Slusher, NW SW NW sec. 35-7-17w.
Drlg. 75 ft.

Lincoln County

Fred McDuff's No. 1 Jacob, NE NE SE Sec. 10-15-5.
S.D. 2,070 ft.; T.D.

Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Crawford, NE NE SE Sec. 35-15-2.
First Wilcox, 5,110 ft.; second Wilcox, 5,218 ft.; T.D. 5,229 ft.; flowed 131 bbls. in 10 hrs., 20% oil, 80% wtr. and mud; 18,000,000 ft. gas; deepened to 5,243 ft.; wtr. increased.; P.B.

Texas Co.'s No. 1 Andrew, NW NE SE sec. 28-14-5.
2,250,000 ft. of gas 3,900 ft.; T.D. 4,188 ft.; P.B. to 3,925 ft.; 2,000,000 ft. gas; shut in.

Logan County

R. H. Pierce No. 1 Kihega, SW cor. sec. 7-17-1.
Drlg. 2,620 ft.

Springrose Drlg. Co. No. 1 Wright, SW SW NW sec. 32-15-1.
Viola lime 5,539 ft.; first Wilcox 5,679 ft.; second Wilcox 5,819 ft.; T.D. 5,827 ft.; ran Schlumberger; no showing; plugged and abd.

Stanolind O. & G. Co., Amerada Pet. Corp. and Eason O. & R. Co. No. 1 Gragg, SW SW NE sec. 20-18-4w.
Viola lime 5,835 ft.; Dense 5,860 ft.; 35,400,000 ft. gas at 5,993 ft.; T.D.; waiting on fishing tools.

McClain County

Arab Pet. Corp. No. 1 Autry, NW cor. sec. 16-7-3w.
T.D. 6,889 ft.; W.O.C.

McIntosh County

Indian Ty. Ill. Oil Co.'s No. 1 Tancred.
1,050 ft. S and 390 ft. E of C. Sec. 9-9-14. Glicrease sand, 2,695-2,732 ft.; 20,000,000 ft. of gas; T.D. 3,018 ft.; set 8-in. pipe at 3,225 ft.; drlg. 3,302 ft.

Oklahoma Oil Corp. No. 1-A Wolf, SE SW SE sec. 35-12-17.
Drlg. 790 ft.

Murray County

Hornsby & Jones' No. 1 Sadler, NE NE NW sec. 20-1-2.
T.D. 1,680 ft.; S.D.

Okfuskee County

Manahan & Grisso No. 1 Dalton, SE SE SE sec. 36-10-8.
T.D. 1,740 ft.; standardizing.

W. J. Sherry et al No. 1 Washington, SW SW NE sec. 21-13-7.
P.B. 4,130 ft.; acidized; gas estimated 50,000 ft.; re-acidized; gas 9,000,000 ft.; shut in.

Oklahoma County

Sinclair Prairie Oil Co. et al No. 1 Heavey, NE NE NW Sec. 19-13-3w.
Oswego lime 6,230 ft.; Viola 6,635 ft.; Dense 6,675 ft.; drlg. 6,865 ft.

Sinclair Prairie O. & G. Co. No. 1 Corbett, NE NW NE sec. 17-13-3w.
Oswego lime 6,070 ft.; Viola lime 6,395 ft.; T.D. 6,477 ft.; making Eastman survey.

Pittsburg County

Vaughn Prod. Co. et al No. 1 Chunn, 990 ft. N and 614 ft. W of C sec. 29-4-14.
S.D. 1,170 ft.; recovered all drill pipe; tools moved out.

Pontotoc County

Gulf Oil Corp. No. 1 Emry, SW SW NE sec. 15-2-6.
Hunton 5,552 ft.; Sylvan 5,846 ft.; Viola 5,975 ft.; T.D. 6,011 ft.; W.O.C.

Mid-Texas Pet. Co. No. 1 Whitney, SW SW SE sec. 30-6-4.
Spudded and S.D.

Pioneer O. & G. Co. No. 1 Bayne, SE SW SW sec. 16-5-6.
(Old well deepening); T.D. 3,016 ft.; P.B. to 3,006 ft.; acidized and no results; P.B. to 2,760 ft.; 1,600 ft. of oil in hole; pumped 7 bbls. oil in 24 hrs.

Pottawatomie County

Ark Oil Co. No. 1 Sparkman, SE SE NE sec. 33-8-4.
Hunton lime 3,850 ft.; T.D. 4,137 ft.; acidized; flowed 1,268 bbls. of oil in 48 hrs.

Magnolia Petroleum Corp. No. 1 Devault, SW NW SE sec. 22-6-4.
D.S. at 3,735 ft.; packer set at 3,715-3,800 ft.; fresh wtr.

Ross Oil Co. et al No. 1 Sparkman, SE NE sec. 33-8n-4e.
C.O. 3,915 ft.; shot at 3,871-90 ft.; swbd. 250 bbls. in 24 hrs.; acidized.

Roger Mills County

Anderson & Kerr et al No. 1 Teeter, C SE SE Sec. 2-17-25w.
Panhandle Big lime 4,195-6,503 ft.; T.D. and S.D.

Seminole County

Amerada Pet. Corp. et al No. 1 Community, NE NE SW sec. 3-10-5.
Moving in material.

Sinclair Prairie Oil Co. et al No. 1 Harrison, NE NE NW Sec. 17-8-8.
Location.

Felmlee & Nichaelson No. 1 Belford, SE NW NE sec. 15-9-8.
Sand 1,460-1,505 ft.; showing oil and gas; drlg. 1,680 ft.; H.F.W.

Washita County

L. P. McWhirter's No. 1 fee, SW cor. Sec. 34-8n-19w.
T.D. 1,347 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

Vierson et al's No. 1 Williams, NE SW NW Sec. 24-2s-10.
Produced 2,500,000 ft. of gas from 3,746-48 ft.; now dead; T.D. 3,750 ft.; S.D. for 6-in. csg.

Bryan County

H. B. Smith et al's No. 1 Henry, C NW NE Sec. 10-8s-7e.
Rig.

Carter County

Carter Oil Co.'s No. 1 Carter-Williams, SW NE SW Sec. 27-2s-3w.
T.D. 5,088 ft., flowed 16,000 bbls. of oil in 24 hrs.; pipe stuck; drlg. 7,303 ft. in new hole.

Carter Oil Co. et al No. 1 Leon Voorhees, C SE SW sec. 34-5s-2w.
Location.

Schermerhorn Oil Co. No. 1 Clowdus, NW NW NE sec. 3-4s-2w.
Drlg. 956 ft.

Southern States Oil Dev. Co. No. 1 Moore, NE SE NW sec. 30-4s-1w.
Drlg. 614 ft.

Texas Co. No. 1 Cathey, SE NE NE sec. 6-5s-1w.
T.D. 4,164 ft.; shot with 20 qts.; swedging 8¼-in. csg.; production estimated 35 bbls. daily.

Cotton County

Grace & Woods No. 1 Henderson, NE SE SW sec. 27-4s-11w.
Drlg. 1,388 ft.

Jackson County

Associated Oil Co. No. 1 Harrell, NE NE SE sec. 13-1s-21w.
S.D. 1,360 ft.

A. H. Jackman No. 1 fee, SW SW SW sec. 27-1s-24w.
T.D. 1,770 ft.; S.D. for csg.

Universal Oil Co. No. 1 R. W. Briscoe, NW SW NE sec. 36-1s-20w.
Drlg. 1,350 ft.

Jefferson County

A. T. Campbell No. 1 Trout, SE NE NE sec. 6-8s-7w.
Show oil and gas 1,150-55 ft., T.D. 314 ft.; moving in large tools.

L. C. Heydrick No. 1 O. W. Seay, SE NW NW Sec. 31-6s-5w.
T.D. 2,107 ft.; dry and abd.

Geo. Pace No. 1 Gardner, SW cor. Sec. 28-5s-5w.
T.D. 600 ft.; S.D.

Sinclair Prairie Oil Co. No. 1 M. H. Barrett, NW cor. sec. 31-5s-6w.
Sand 1,805 ft.; drlg. 2,180 ft.

Johnston County

Equitable O. & G. Co. No. 1 Bellsey, NE SW sec. 13-2s-4e.
Arbuckle lime 1,552 ft.; drlg. 1,938 ft. in lime.

Moore & Wirick No. 1 Westheimer & Daube, SE NW NE sec. 19-3s-4e.
T.D. 1,925 ft.; S.D. for orders.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3n-22.
Drlg. 1,300 ft.

Love County

Amerada Pet. Corp.'s No. 1-A Westheimer & Daube, SW SE SW Sec. 27-6s-2e.
Drlg. 5,871 ft.

J. B. Russell et al No. 1 Scott, SW SE SW sec. 29-8s-2e.
Drlg. 1,844 ft.

Sinclair Prairie Oil Co.'s No. 1 Stockton, SE SE SW Sec. 26-6s-2w.
Drill pipe stuck at 6,532 ft.; T.D. 7,165 ft.; pipe stuck at 6,348 ft. in new hole.

Marshall County

Elmir-Gill No. 1 Lidecker, SE SE NW sec. 7-6s-6e.
Drlg. 498 ft.

Norman Smith No. 1 Chestnut, NE cor. sec. 23-8s-5e.
Drlg. 350 ft.

W. T. Singley et al No. 1 Halford, SW SE SW SW sec. 10-7s-4e.
T.D. 400 ft.; S.D.

W. T. Singley No. 1 Vickers, NW SW NW sec. 22-7s-4.
T.D. 245 ft.; S.D.

Pushmataha County

C. W. Whitehead et al No. 1 Misser, SE SW SW sec. 35-3s-18e.
S.D. 3,560 ft.

Stephens County

Franklin & Duncan No. 1 Woolsey, NW NW SE Sec. 10-3s-6w (old well deepening).
T.D. 1,050 ft.; shut down.

Clyde Rhodes et al No. 1-A Doak, SW SW SW sec. 1-1s-5w.
T.D. 400 ft.; S.D.

Nash et al No. 1 Saddler, SW cor. NW NW SE Sec. 30-2n-4w.
T.D. 180 ft.; waiting for csg.

Tillman County

Gulf Oil Corp. No. 1 Wearmouth, SE NW SE Sec. 31-1s-18w.
T.D. 2,970 ft. in lime; W.O.C.

KANSAS WILDCATS

Week Ending February 15

(Descriptions are East unless marked otherwise)

Barton County

Buchanan & Alexander No. 1 Langfeld, NE NE SW sec. 14-20-11w.
Drlg. 1,875 ft.

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w.
Rig.

Hilligoss et al No. 1 Schmidt, NE cor. sec. 27-19-11w.
Drlg. 218 ft.

George W. Hinkle No. 1 Smith, SW NW NW sec. 1-17-11w.
Rigging up.

Morgan & Flynn et al No. 1 Amerina, NE cor. sec. 14-19-14w.
Fishing 3,530 ft.

Morgan & Flynn et al No. 1 Zimmer, SE SE SW sec. 20-19-14w.
Drlg. 933 ft.

Murphy & Morgan No. 1 Robinson, NE NE SW sec. 21-16-14w.
Rigging up.

Roy Ramsey et al No. 1 Hunt, NW cor. sec. 10-18-11w.
Location.

Simpson & Noble and Atlantic Oil Producing Co. No. 1 Hiss, C NW NE sec. 31-20-13w.
Location.

Torry & Feaster No. 1 Kimpler, SE NE NE sec. 31-18-11w.
Siliceous 3,423-41 ft.; T.D.; hole full of oil; C.O. 3,441 ft.

Torry & Feaster No. 1 Feist, NE NE SE sec. 29-18-11w.
Siliceous lime 3,420-23½ ft.; T.D.; potential; pumped 346 bbls. oil in 18½ hrs.

Wakefield & Johnson No. 1 Bumm, SW SW NE sec. 23-19-12w.
Moving in material.

Yarnell, Carlson & Spencer No. 1 Bloomer NE NE NW sec. 36-17-11w.
K.C. lime 2,994 ft.; Siliceous 3,257-73 ft., T.D. 3,281 ft.; pumped 92 bbls. oil in 3 hrs.; will acidize.

Butler County

National Ref. Co. No. 1 McCullough, NE NE SW sec. 1-28-6.
Mississippi lime 2,759 ft.; Wilcox 3,169-75 ft.; T.D.; made potential, 107 bbls. oil in 24 hrs.; completed.

Pryor & Lockhart No. 1 Boucher, NW cor. sec. 19-27-4.
T.D. 2,287 ft.; wtr. in hole; dry and abd.

Cowley County

Aylward & Trees Oil Co. et al No. 1 Shields, SW cor. sec. 17-32-6. Mississippi lime 3,015 ft.; drlg. 3,025 ft.

Mead Bros. et al No. 1 Orr, SE SE SW sec. 23-31-4. Moving in material.

A. D. Morton et al No. 1 Roger, SE SE NE sec. 1-31-4. Moving in material.

Penwest Oil Co. No. 1 Clover, NE SE SE sec. 8-31-7. 19,000,000 ft. gas 1,430-60 ft.; showing oil and gas 2,249-51 ft.; slight showing oil 2,795 ft.; C.O.

Reed & Milligan No. 1 Houston, NW NW SW sec. 10-31-4. S.D. 2,648 ft.

Roth & Faurot No. 1 Guthrie, NW cor. Lot 14, sec. 30-33-8. Fishing 535 ft.

Roth & Faurot No. 1 Sherwood, NE NW SW sec. 11-31-4. Sand 3,010-29 ft. (cor.); T.D. 3,031 ft.; 2,600 ft. oil in hole.

A. M. Scroggin No. 1 Brady Est., NE NE SE sec. 30-31-3. Location.

E. B. Shawver et al No. 1 Wilson, S½ NE SE NE sec. 11-30-4. R.U. machine.

Shawver & Wilt No. 1 Baruth, SW NW NE sec. 8-34-3. Old well deepening from 1,893 ft.; H.F.W. 1,905-25 ft.; T.D.; S.D.

Earl Wakefield No. 1 Wilson, NW cor. sec. 4-32-3. Rigging up.

Winkler, Koch et al No. 1-B Harlan, C S½ NW NE sec. 13-31-7. S.D. 2,750 ft.

Ellis County

Blackwell O. & G. Co. No. 1 Solomon, SE SE SW sec. 28-11-19w. Location.

Lario Oil & Gas et al No. 1 Walter, SE NE SW Sec. 2-12-18w. Spudded.

Parrish & Denman No. 1 Walter, SE SW SE sec. 14-12-17w. Location.

Ted Kors et al No. 1 Koblitz, SE SW NW sec. 23-12-18w. Rigging up.

Twin Drlg. Co. No. 1 Reidel, SW SW NE sec. 27-13-16w. Location.

Ellsworth County

Smith & Ash and Phillips Pet. Co. No. 1 Splitter, SW cor. sec. 19-17-9w. Drlg. 465 ft.

Graham County

Vickers Pet. Co. & Phillips Pet. Co. No. 1 Hutton, 430 ft. from E line and 330 ft. from N line of SE¼ Sec. 29-8-22w. T.D. 1,375 ft.; S.D.

Greenwood County

K. C. Dunn No. 1 Dawson, C NW NE sec. 27-26-13. S.D. 925 ft.

Hale & Reese No. 1 Needles, NE SE NW sec. 12-25-10. Rig.

Mohawk Oil Co.'s No. 1-A Edgar, NE NE SW sec. 2-28-8. Mississippi lime 2,540 ft.; 200 ft. of oil in hole, 2,541-42 ft.; T.D. 2,548 ft.; 300 ft. of oil in hole in 15 hrs.; swbd. 3 bbls. oil per day; acidized.

Sharpless et al No. 1 Cook, NW NW NW sec. 15-24-10. Spudded and S.D.

Harper County

Marathon Oil Co. No. 1 Zellers, C SW NW Sec. 17-35-8W. Mississippi 4,775 ft.; cored at 4,875-90 ft.; slight showing of oil; D.S. test showed 100 ft. mud in 22 min.; to test again.

Harvey County

Empire O. & R. Co. et al No. 1 Webster, SE SE SW sec. 8-24-2w. W.O.C. 340 ft.

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. O.W.D.; T.D. 587 ft.; S.D. 620 ft.

Ok-Tex Oil Co. No. 1 Osborne, C SE SE Sec. 6-23-3w. Chat 3,605 ft.; corrected; T.D. 3,697 ft.; P.B. to 2,375 ft.; wtr.; dry and abd.

Western Kansas O. & R. Co. No. 1 Warkentin, C SW SW sec. 1-23-2w. Spudded.

Haskell County

Helmerich & Payne et al No. 1 Larson, C SE sec. 28-28-32w. Rig.

Kearny County

L. F. Meyers et al No. 1 Beaty, C NW sec. 28-25-36w. Rotary rig.

Kingman County

D. R. Lauck et al No. 1 Skilling, C E½ E½ SW sec. 35-27-6w. Old well deepening; drlg. 4,593 ft.

Marion County

Milton et al No. 1 Young, NW NW SE sec. 17-21-3. Drlg. 800 ft.

Norton County

Helmerich & Payne et al No. 1 Collins C NE Sec. 11-3-25w Oswald 2,652 ft.; drlg. ahead.

Lario O. & G. Co. and Elwell No. 1 Kennedy, SW SW NW Sec. 22-3-23w. Drlg. 3,150 ft.

Pratt County

Lario O. & G. Co., Elwell and Atlantic O. P. Co. No. 1 Lemon, SE SE NW Sec. 12-29-12w. Topeka 3,340 ft.; drlg. 3,500 ft.

Reno County

Derby Oil Co. No. 1 Schrock, SE SE SW sec. 27-24-5w. Simpson 3,848 ft.; H.F.W. 3,878 ft.; P.B. 3,850 ft.; more wtr.; Siliceous 3,943 ft.; T.D. 3,951 ft.; P.B. to 3,812 ft.; perforated csg. 3,460-65 ft.; swbd. 1½ bbls. oil, 6 bbls. wtr. per hr.; perforated csg. 3,465-70 ft.; no test.

Foraker et al No. 1 Hiett, SE SW NE Sec. 34-24-4w. S.D. 1,730 ft.

McPherson Drlg. Co. et al No. 1 Miller, SE SE NE sec. 23-24-5w. Cellar.

McPherson Drlg. and Derby Oil Co. No. 1 Scheuchzer, NE SE SW Sec. 17-24-4w. Chat 3,307 ft.; T.D. 3,391 ft.; showing oil; acidized; made potential 689 bbls. oil in 24 hrs.; completed.

Miller et al No. 1 Detter, NE SE NW sec. 28-22-7w. Building rig.

Rose Spring & Foraker No. 1 Brauer, SW SW SE Sec. 4-26-4w Misener 4,060 ft.; Viola lime 4,106-12 ft.; T.D.; 1,000 ft. fluid in hole; acidized; not tested.

Rice County

Continental Oil Co. and Empire Oil & Ref. Co. No. 1 Nickel, NE SW SW sec. 13-18-8w. Cmtng. cave 2,120 ft.

Day No. 1 Mason, NW NE NE Sec. 23-21-7w. Chat 3,383-3,400 ft.; swbd. 116 bbls. oil in 4 hrs.; 12 bbls. per hr. in last 2 hrs.

Duwe & Schneider No. 1 Wright, NW cor. sec. 36-21-7w. Spudded; S.D.

Grattan et al No. 1 Williams, SW SW NW sec. 17-18-7w. Drlg. 1,110 ft.

Permian Oil Co. No. 1 Monroe, C NE NE Sec. 9-20-7w. S.D. at 1,110 ft.

Permian Oil Co. No. 1 Conner, C NE NE sec 28-19-7w. K.C. lime 2,890 ft.; chat 3,240-66 ft.; Misener 3,470 ft.; H.F.W. 3,470-75 ft.; Siliceous 3,630 ft.; T.D. 3,640 ft.; P.B. 3,210 ft.; 400 ft. oil in hole; acidized; no increase; dry and abd.

C. E. Skiles et al No. 1 Edwards, NW NW NE Sec. 3-18-8w. Siliceous 3,278-81 ft.; T.D.; potential production 550 bbls. of oil in 24 hrs.; deepened to 3,282 ft. and oil increased; no test.

Vernon Oil & Gas and Cusco Oil Co. No. 1 Boldt, NW SW NW Sec. 10-19-10w. U.R. 6-in. csg. 2,909 ft.

W. E. Witt's No. 1 Hall, SE SE NW sec. 3-20-9w. Spudded and S.D.

Rooks County

F. A. Gillespie & Sons No. 1 Low, NE NE NW Sec. 12-6-18w. Topeka lime 2,586 ft. (cor.); T.D. 3,162 ft.; pumped 60 bbls. of oil and was acidized; acid ate out csg. seat; wtr. broke in; P.B. to 3,118 ft.; U.R. 6-in.

Murfin et al No. 1 Washusin, NE NE SE Sec. 19-9-16w. S.D. 990 ft.

Pryor & Lockhart's No. 1 Bradley, SW SW NE sec. 31-10-16w. Drlg. 2,525 ft.

Rush County

John McCole et al No. 1 Roth, NW NW SW sec. 21-16-18w. Rig.

Torrey & Feaster et al No. 1 Winget, SE cor. Sec. 15-16-16w. Rig.

Russell County

R. G. Berry et al No. 1 Cook, NE NE SE sec. 19-11-13w. Spudded and S.D.

Bridgeport Machine Co. et al No. 1 Wyckoff, SE NW NE sec. 27-11-13w. Drlg. 1,485 ft.

Central Petroleum Co.'s No. 1 Benso, SE SE SW sec. 9-14-15w. Oswald 3,035 ft.; T.D. 3,096 ft.; acidized; pumped 215 bbls. oil in 20 hrs.

Coraiena Oil Co. No. 1 Disken, SE cor. Sec. 30-15-13w Fishing 3,000 ft.

Eisenhour & Shaffer No. 1 Humes, SW SW SW sec. 6-14-12w. Rigging up.

Empire O. & R. et al No. 1 Major, SE cor. Sec. 11-14-12w. Drlg. 425 ft.

Hartman and Blair No. 1 McAllister, SW SW SE sec. 24-13-15w. Moving in material.

Hartman and Blair No. 1 Boxberger "B," NE SE SW sec. 5-14-14w. C.O. 599 ft.

Hartman & Blair et al No. 1 Boxberger, NW NW SW Sec. 32-13-14w Topeka lime 2,760 ft.; Oswald 3,039 ft.; C.O. 3,045 ft.

Hartman & Blair No. 1 Johnston, NW cor. sec. 11-13-14w. Location.

Sam Murphy et al's No. 1 Enschuts & Schaffer, SW cor. Sec. 10-15-13w. Pay 2,465-65 ft.; produced 3 bbls. of oil an hr.; C.O. at 2,565 ft.

Charles Newbold No. 1 Krug, SE SW SE sec. 4-15-14w. Rigging up.

R. C. Tarrant No. 1 Williamson, SE SE NW sec. 9-14-14w. Tarkio lime 2,515 ft.; T.D. 2,550 ft.; swbd. 5 bbls. oil per hr., and showing of wtr.; acidized with 1,000 gals.; made potential of 243 bbls. of oil.

Phillips Pet. Co. and Sinclair Prairie Oil Co. No. 1 Driscoll, NW NW SE Sec. 31-15-11w. Oswald 3,031-41 ft.; S.D. 3,362 ft.

P. G. Reynolds No. 1 Fredrickson, SE SW SE sec. 6-13-12w. S.D. 500 ft.

Warren Oil Co. No. 1 Bratton, SE cor. Sec. 25-11-13w. Oswald lime 2,970 ft.; showing of oil and gas 3,126 ft.; S.D. 3,385 ft.

Winkler & Koch No. 1 McAllister, NE NE SE Sec. 9-12-13w. Rig.

Sedgwick County

T. C. Johnson No. 1 Jansen, SW SW NW sec. 11-28-2. Drlg. 115 ft.

Stafford County

L. A. Farris et al No. 1 Snyder, SE SE NW sec. 3-21-11w. Showing oil 1,870-80 ft.; S.D. 2,065 ft.

Herndon Drlg. Co. and Atlantic O. P. Co. No. 1 Russell, C SE NW sec. 20-21-14w. Simpson 3,714 ft.; Siliceous 3,770 ft.; showing of oil 3,784-88 ft.; W.O.C. 3,788 ft.

Sumner County

Helmerich & Payne No. 1 Wright, SE SE NW Sec. 10-32-2. Simpson 3,440 ft.; showing of oil 3,474-77 ft.; drlg. plug.

D. L. Husted et al No. 1 Evers, SE SE NE sec. 37-31-2. S.D. 200 ft.

Morgan et al No. 1 Veail, SE SW NE sec. 27-32-2. Drlg. 2,315 ft.

Orcutt & Stewart's No. 1 Newton, SE cor. Sec. 21-30-2. S.D. 550 ft.

D. J. Wilson et al's No. 1 Clark, 1,320 ft. from W and 25 ft. from S line of NW Sec. 15-35-1w. S.D. at 2,670 ft.

Trego County

Central Commercial's No. 1 Wagg NW NW SE Sec. 17-13-21w K.C. lime 3,548 ft.; showing of oil and gas 3,643-50 ft.; U.R. 5-in. at 3,845 ft.

Continental Oil Co. No. 1 Cave, E½ E½ NW sec. 26-11-23w. Rigging up.

Vickers et al's No. 1 Secor, NW NW NW Sec. 25-15-24w. H.F.W. 4,726 ft.; cmtd. hole to 4,340 ft.; drlg. cmt.

Woodson County

Lewis et al No. 1 Riggs, SW cor. sec. 10-26-14. S.D. at 900 ft.

J. P. Mergen et al No. 1 Vermont Savings Bank, NE NW NE sec. 15-25-14. Mississippi lime 1,564 ft.; S.D. 1,610 ft.

C. L. Sheedy No. 1 Baker, SE SE NW sec. 2-26-14. R.U. machine.

Sheedy et al No. 2 Warner, SW SW SW sec. 21-25-14. Sand 1,426-60 ft.; T.D. 1,500 ft.; P.B. to 1,460 ft.; shot with 150 qts.; C.O.

LA.-ARK. WILDCATS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

Bienville Parish

DeSoto O. & G. Co. No. 1 C. R. Mewer, 370 ft. S, 400 ft. W, NE cor. NW SW sec. 9-16-10. Coring 1,125 ft.

Gulf Ref. Co. No. 1 Thrasher, 723 ft. N, 554 ft. E. SW cor. sec. 13-15-7. Set 10-in. 146 ft.; drlg. 675 ft.

Lide & Greer No. 1 Davis Bros. Lbr. Co., 660 ft. S and W, NE cor. SE sec. 12-16-5w. Drlg. 3,915 ft.

Texas Seaboard Oil Co. No. 1 F. E. McGee, 660 ft. N and E center sec. 3-16-6w. Drlg. 5,312 ft.

Bossier Parish

Geo. H. Bringhurst et al No. 1 Buckley, NE SW sec. 36-21-13. Drlg. 1,850 ft.

Producers O. & G. Co. No. 1 Edwards, 660 ft. N and W, SE cor. sec. 27-18-11. S.D. 1,160 ft.

Triangle Drlg. Co. No. 3 Shannal, Unit 50, S and W of C of NE. Set 7-in. 2,660 ft.; testing 2,720 ft.

United Gas Pub. Ser. Co. No. 1-A A. J. Murff, NW cor. sec. 17-17-11. Rigging up.

Caddo Parish

Bayou State Oil Corp. No. 2 Brown, 150 ft. N and E, SW cor. NE SE sec. 25-22-15. Set 10-in. 40 ft.; set 6-in. 926 ft.

Pyramid O. & G. Co. No. 1-A S. R. Wheeler, 1,320 ft. S, 1,500 ft. W, NE cor. sec. 16-18-16. Rigging up.

Shreveport Oil Corp. No. 6-B Muslow, 1,760 ft. E, 280 ft. N, SW cor. NW sec. 4-20-15. S.D. 1,300 ft.

Caldwell Parish

Critchett & Woods No. 1 Kyles, NE cor SW NE sec. 13-11-3e. S.D.; W.O. 1,296 ft.

Claiborne Parish

E. T. Oakes No. 1 H. W. Patton Est., 660 ft. S and W, NE cor. sec. 1-30-5w. S.D. 4,242 ft.

Ryan Oil Corp. No. 1 F. A. Gladney, 660 ft. S, 330 ft. E, NW cor. SE sec. 10-23-16, sec. 27-20-7. Arranging resume drlg. at 5,024 ft.

United Gas Public Service Co. No. 1 Durfett, 660 ft. N and 1,980 ft. E, SW cor. sec. 31-20-5. Fishing for D.S. 5,655 ft.

Concordia Parish

Zeni Oil Co. No. 1 Young, 1,200 ft. W, 100 ft. N, SE cor. sec. 28-6n-8e. S.D. 1,120 ft.

De Soto Parish

S. S. Alexander No. 1 G. R. Steil, 330 ft. S and W, NE cor. sec. 5-13-16. Set 7-in. 4,500 ft.; drlg. 4,950 ft.

Clarke & Stiller No. 1 Logan Oil Co., sec. 17-10-12. Comp.; 24,500,000 ft. gas, 3,320 ft.

A. G. Halbach et al No. 1 Staton, 150 ft. N and E, SW cor. SE sec. 29-13-14. S.D. 3,204 ft.

Union Pet. Co. No. 1 Hill, sec. 3-10-13. S.D. 1,400 ft.

J. K. Wodley et al No. 2 Logan Oil Co., NW sec. 16-10-12. Rigging up.

Grant Parish

Alexander et al No. 1 Maxwell, sec. 9-9-1e. W.O.S.R. 1,538 ft.

Ian Oil Co. No. 1 Bradford, NE cor. NW sec. 16-9-1e. Drlg. 50 ft.

La Salle Parish

H. L. Hunt, Inc., No. 1 La.-Central Lbr. Co., 2,182 ft. E, 660 ft. N, SW cor. sec. 33-10-3e. Drlg. 1,907 ft.

Lincoln Parish

Caldwell Land & Timber Co. No. 1 J. K. Hammons, 330 ft. S and E, NW cor. SE SW sec. 30-18-1w. Rigging up.

Herman L. Brown et al No. 1 S. Gardner, 230 ft. N, 350 ft. E, SW cor. NW NE sec. 10-17-4w. Set 10-in. 2,260 ft.; T.D. 2,386 ft.

Natchitoches Parish

Union Pet. Co. No. 1 DeBlieux, 1,395 ft. E, 150 ft. S, NW cor. sec. 33-10-7. S.D. 2,850 ft.

Ouachita Parish

United Gas Pub. Ser. Co. No. 85 fee, NE cor. SE sec. 31-19-4e. Rigging up.

United Gas Pub. Ser. Co. No. 86 fee, SE cor. SE sec. 31-19-4e. Rigging up.

Richland Parish

J. S. Morrisey No. 1 Jones, 1,293 ft. N, 636 ft. E, SW cor. sec. 15-18-7e. Set 10-in. 176 ft.

Arthur Wray No. 1 Slocum, 2,436 ft. S, 560 ft. W, NE cor. sec. 10-17-6e. S.D. 600 ft.

Sabine Parish

B. S. & M. Oil Co. No. 1 Tatum, 330 ft. S and E, NW cor. NW SE sec. 32-8-14. P.B. to 1,590 ft. from 2,100 ft.

W. E. Hall No. 1 Edwards, 330 ft. S and 330 ft. W of NE corner NW SE sec. 29-9-13. Comp.; pumping 5 bbls., 2,090 ft.

J. E. Nicholson No. 1 Cassell, 330 ft. S and W, NE cor. NW SW sec. 25-9-14. S.D. 1,585 ft.

Geo. L. Pace No. 4 DeSoto Corp., 330 ft. S and W NE cor. SE SE sec. 27-10-13. S.D. 1,395 ft.

Claude H. Smith No. 1 Whitney Corp., 330 ft. S, 990 ft. W, NE cor. sec. 19-10-13. S.D. 750 ft.

Lee Whitehurst No. 1 Cassell, 440 ft. S and W, NE cor. NW sec. 30-9-13. Drlg. 800 ft.

Union Parish

Interstate Nat. Gas Co. No. 42 fee, 980 ft. S and W. NE cor. sec. 2-20-3e. Comp.; 3,000,000 ft. gas, 2,154 ft.

Southern Carbon Co. No. 7 Grayling, 1,980 ft. S, 1,986 ft. W, NE cor. sec. 29-21-4e. Set 6-in. 2,057 ft.

Vernon Parish

Liano Del Rio Co. No. 2 Gulf Lbr. Co., 1,285 ft. S, 1,000 ft. W, NE cor. sec. 7-1n-9w. Drlg. 2,610 ft.

Webster Parish

J. L. Edwards No. 1 Hooper, 330 ft. S and E, NW cor. SW sec. 8-17-9. S.D. 1,290 ft.

Ohio Oil Co. No. 1 R. L. Holloway, 660 ft. S, 760 ft. W, C Sec. 28-21-10. Set 9⅝-in. csg. 5,300 ft.; drlg. 5,750 ft.

Winn Parish

Parsons et al No. 1 Tremont Lbr. Co., 660 ft. S, 330 ft. E, NW cor. SW sec. 10-12-2w. Drlg. 3,700 ft.

EAST TEXAS

(Border Counties)

Cass County

R. W. Norton No. 1 Mary Riner, John Collum Sur. Coring 5,976 ft.

United Gas Pub. Ser. Co. No. 1 J. R. Jones Unit, Ben Murray Sur. Set 16-in. 323 ft.

United Gas Pub. Ser. Co. No. 2 J. R. Jones Unit, Ben Murray Sur. Set 10¾-in. at 3,142 ft.

Harrison County

R. C. Payne et al's No. 1 Lowery, H. D. Spain Sur.
P.B. to 3,524 ft.

Marion County

Ed S. Holman's No. 1 Henderson, R. Bennington Sur.
P.B. to 2,443 ft.

Panola County

George Hudson et al's No. 1 J. F. Nail, C McGeary Sur.
Set 8-in. 40 ft.; fishing for core bbl. at 2,345 ft.

Geo. Le Grand No. 1 P. J. Wardleigh, A. Thompson Sur.
Set 10-in. 62 ft.

ARKANSAS

Arkansas County

Ark. O. & G. Co. No. 3 Fischer, 250 ft. S, 200 ft. E, NW cor. NE NW sec. 6-6-4w.
Rigging up.

Ashley County

Seaboard Oil Corp. No. 2 fee, NW cor. NW NE sec. 28-17-4.
Rigging up.

Clark County

Boris Tripanoff, tr., No. 1 W. Gibbons sec. 27-8-18.
Arranging to test 557 ft.

Columbia County

Southern States Gas Co. No. 1 Piney Woods Lbr. Co., 330 ft. N and E, SW cor. NE NW sec. 10-20-22.
S.D. 1,924 ft.

Hempstead County

Dixie Drlg. Co. No. 1 Wheatley, 330 ft. S. 30 ft. E, NW cor. SW NE sec. 14-11-26.
Rigging up.

Fitzwater et al No. 2 Lafferty, C NW sec. 17-14-24.
S.D. 1,986 ft.

G. L. Glass, tr., No. 1 May B. O'Bier, sec 32-12-23.
Derrick.

Murdock-May & Easton No. 1 Conway est., 330 ft. N and E, SW cor. NW SW sec. 17-14-24.
Set 12½-in. 80 ft.; S.D. 120 ft.

LaFayette County

Earl F. Fox No. 2 Coleman Bros., NE NE sec. 30-16-24.
T.A. 2,824 ft.

Erwin & Leach No. 3 Bodcaw Lbr. Co., 330 ft. S and E, NW cor. sec. 20-16-13.
Drlg. 3,348 ft.

Kamon & Neely No. 1 Cockran, NW cor. SE SW sec. 26-19-25.
S.D. 4,450 ft.

Joe Modisett No. 1 Red River Lbr. Co., C SW SW sec. 21-19-14.
S.D. 2,662 ft.

Transportation Pet. Co. No. 1 Cockran, 330 ft. S and W, NE cor. SE sec. 26-19-25.
S.D. 3,412 ft.

Miller County

King Oil Corp. No. 1 G. W. Crank, SW NE sec. 19-16-25.
S.D.; W.O. 3,906 ft. (corrected).

L. H. Mahon et al No. 1 Miller Land & Timber Co., SW cor. SE sec. 29-18-27.
S.D. 1,801 ft.

Ouachita County

Grigsby & Aarner No. 1 Burris, 330 ft. N and E, SW cor. NW NE sec. 19-1s-19.
Drlg. 3,388 ft.

L. L. McDonald No. 1 Langley, 330 ft. N and E, SW cor. NE SW sec. 19-15-15.
S.D. 1,700 ft.

Phillips Pet. Co. No. 1 J. D. Reynolds, 330 ft. N and W, SE cor. SE NW sec. 27-15-15.
Drlg. 2,133 ft.

J. D. Reynolds No. 1 McKenzie, 204 ft. S, 300 ft. W, NE cor. SE SW sec. 36-15-16.
Set 8¼-in. 160 ft. (cor.).

W. B. Street, trustee No. 1 Roth & Cartier, 330 ft. N and E, SW cor. SW NE.
Washing to bottom 1,410 ft.

Poinsett County

Rockwell Dev. Co. No. 2 W. A. Smith, 52 ft. S, 190 ft. E of C NE NE sec. 13-11n-3e.
Dry and abd. 1,920 ft.

Sevier County

Pendleton & Vaughn No. 1 Dierke, C NW NE sec. 14-20-29.
Drlg. 750 ft.

Union County

Arkansas Southern Oil Co. No. 1 F. R. Laney, sec. 30-19-16.
Installing larger rig, 175 ft.

J. C. Buckbee, tr. No. 1 Sloan, 330 ft. N and E, SW cor. SE NW.
W.O.S.R. 2,160 ft.

J. C. Buckbee No. 2 Sloan, 330 ft. S and E, NW cor. SE NW sec. 14-17-15.
Drlg. 755 ft.

J. E. Crosbie, Inc., No. 4 Sullivant, 300 ft. N, 360 ft. W, SE cor. NE NW sec. 12-17-14.
W.O.S.R. 3,173 ft.

F. C. Henderson No. 1 J. M. Sheppard, C NE NW sec. 35-17-15.
Tested; show gas 2,192 ft.

Ohio Oil Co. No. 6 R. Pumphrey, 520 ft. S, 50 ft. W, NE cor. SE NW sec. 12-17-14.
Set 10-in. 179 ft.

MISSISSIPPI

Clarke County

L. Beckwith et al No. 1 Long Bell Lbr. Co., 538 ft. S, 125 ft. W of C sec. 10-2n-16e.
Temp. abd.

Clarke County Oil Co. No. 1 Dora Butler, C SW SW sec. 15-2n-16e.
Set 10-in. 63 ft.

Greene County

United Gas Pub. Ser. Co. No. 1 William Unit, 200 ft. N, 100 ft. W, C SW sec. 6-15-5w.
Drlg. 2,550 ft.

Harrison County

Big Ridge Oil Co. No. 1 Hinzin, NE sec. 13-7s-10w.
S.D.; W.O. 1,100 ft.

Lafayette County

W. L. Stewart et al No. 1 Russell, 1,320 ft. N, 1,720 ft. E, SW cor. sec. 9-10s-1w.
Drlg. 2,670 ft.

Lauderdale County

Bob Dalton No. 1 Bounds, sec. 34-7n-15e.
S.D.; W.O. 1,600 ft.

Warren County

H. W. Elliott et al No. 2 R. L. Parker, 780 ft. E, 1,570 ft. S, NW cor. sec. 14-14n-1e.
S.D.; W.O. 1,600 ft.

Washington County

Perkins & Dees No. 1 Lee, 1,500 ft. E, 500 ft. N, SW cor. sec. 33-15n-3w.
S.D. 2,175 ft.

Winston County

Jack Vale et al No. 1 Moody, 713 ft. N. 667 ft. E, SW cor. NW SW sec. 2-12n-14e.
Set 6-in. 2,212 ft.

ALABAMA

Houston County

Rice O. & G. Co. No. 1 Oakley Est., SE cor. NW SW sec. 9-3n-29e.
S.D. 3,035 ft.

Lamar County

DeSoto O. & G. Corp. No. 1 Gardner, sec. 22-15s-16w.
Drlg. 4,705 ft.

Mobile County

J. C. Prine No. 1 C. H. M. King, N½ NE sec. 4-1n-4w.
Drlg. 2,890 ft.

FLORIDA

Lake County

Oil Dev. Co. of Florida No. 1 South Lake, SE SE sec. 17-24s-25e.
Drlg. 2,575 ft.

LA.-ARK. PROVEN
NORTH LOUISIANA

Caddo—Rodessa

Ark.-La. Gas Co. No. 7 Rodessa Oil & Land Co., 330 ft. S and W, NE cor. NW NE sec. 23-23-16.
Comp.; 90 bbls. per hr., 6,004 ft.

Ark.-La. Gas Co. No. 8 Rodessa O. & Land Co., 330 ft. S and E., NW cor. SE NE sec. 23-23-16.
Drlg. 3,120 ft.

Ark.-La. Gas Co. No. 9 Rodessa O. & Land Co., 330 ft. S, 520 ft. W, NE cor. SE SE sec. 13-23-16.
Drlg. 3,839 ft.

Ark.-La. Gas Co. No. 10 Rodessa O. & Land Co., 330 ft. S and W, NE cor. SE NE sec. 23-23-16.
Set 16-in. 236 ft.; drlg. 1,489 ft.

Ark.-La. Gas Co. No. 11 Rodessa Oil & Land Co., NW cor. NE sec. 23-23-16.
Rigging up.

Bartex Pipe Line Co. No. 2 Norton Est., 330 ft. N and E, SW cor. NW NW sec. 17-23-15.
Drlg. 2,330 ft.

Bartex Pipe Line Co. No. 1 Rodessa O. & Land Co., 660 ft. N and W, SE cor. NE SE sec. 13-23-16.
Coring 5,943 ft.

Bartex Pipe Line Co. No. 1 Robinson, C E½ NE SE sec. 18-23-15.
Drlg. 3,483 ft.

Bartex Pipe Line Co. No. 2 Robinson, center W½ NW SW sec. 17-23-15.
Drlg. 4,690 ft.

Danciger & Hall No. 1 Willis, C Lot 5, Blk. 7, sec. 23-23-16.
Set 5⅝-in. 6,005 ft.

J. Edward Jones No. 1 Neugent, 25 ft. N and E, SW cor. Lot 14, Blk. 13, sec. 23-23-16.
Drlg. 5,154 ft.

Haynes Prod. Co. No. 1 Tyson, 305 ft. N, 218 ft. W, SE cor. NW NE sec. 14-23-16.
Set 7-in. 5,550 ft.; drlg. 5,885 ft.

Haynes Prod. Co. No. 2 Tyson, 1,020 ft. S, 2,310 ft. W, NE cor. sec. 14-23-16.
Drlg. 4,880 ft.

Haynes Prod. Co. No. 1 Zylka, 330 ft. N and W, SE cor. sec. 9-23-16.
Drlg. 5,919 ft.

Haynes Prod. Co. No. 8 Lawton, 333 ft. S, 337 ft. W, NE cor. SW NW sec. 14-23-16.
Drlg. 5,830 ft.

Haynes Prod. Co. No. 9 Lawton, 1,320 ft. N, 2,310 ft. E, SW cor. sec. 14-23-16.
Set 12¼-in. 254 ft.; set 9⅝-in. 2,088 ft.; drlg. 3,360 ft.

Haynes Prod. Co. No. 1-B Mattie Pitts, 330 ft. N and E, SW cor. NW SE sec. 12-23-16.
Drlg. 5,210 ft.

Haynes Prod. Co. No. 3 Caldwell, 330 ft. N and E, SW cor. sec. 13-23-16.
Comp.; 260 bbls. in 12 hrs., 6,049 ft.

Haynes Prod. Co. No. 7 Sexton, NW cor. SW NE sec. 14-23-16.
Set 12½-in. 252 ft.; drlg. 1,164 ft.

Haynes Prod. Co. No. 8 Sexton, SW cor. NW SE sec. 14-23-16.
Set 12½-in. 250 ft.; set 9⅝-in. 2,095 ft.

Lion Oil Ref. Co. No. 1 J. M. Wynn, 1,-900 ft. N, 660 ft. E, SW cor. sec. 9-23-15.
Running 7-in. 6,157 ft.

M. H. Marr No. 2 Hunter, 990 ft. S and 330 ft. E, NW cor. SW sec. 13-23-16.
Set 7-in. 6,045 ft.; T.D. 6,075 ft.

M. H. Marr No. 4 Hunter, 330 ft. S, 1,316 ft. E, NW cor. SW sec. 13-23-16.
Drlg. 4,592 ft.

R. W. Norton No. 1 Spearman Unit, 1,980 ft. N, 1,155 ft. W, SE cor. sec. 18-23-15.
Drlg. 5,270 ft.

R. W. Norton No. 1 Atkins, 330 ft. N and W, SE cor. NE NE sec. 18-23-15.
Drlg. 3,815 ft.

R. W. Norton No. 3 Tyson heirs, 330 ft. N and E, SW cor. SE NW sec. 13-23-16.
Drlg. 4,223 ft.

O'Brien Bros. No. 2 Rodessa Oil & Land Co., 330 ft. S and E of NW cor. W½ NW SW sec. 14-23-16.
Comp.; 120 bbls. per hr., 6,007 ft.

Pelican O. & G. Co. No. 9 Sexton, 330 ft. N and W, SE cor. NE SE sec. 14-23-16.
Set 7-in. 6,000 ft.; T.D. 6,024 ft.

Pelican O. & Gasoline Co. No. 11 Sexton, 330 ft. S and W, NE cor. SE SE sec. 14-23-16.
Drlg. 5,662 ft.

Pelican O. & G. Co. No. 12 Sexton, 330 ft. N and E, SW cor. SE SE sec. 14-23-16.
Set 7-in. 6,000 ft.; T.D. 6,022 ft.

Pelican O. & Gasoline Co. No. 13 Sexton, 330 ft. N and W, SE cor. sec. 14-23-16.
Drlg. 5,098 ft.

Pelican Oil & Gasoline Co. No. 10 Sexton, 330 ft. S and E, NW cor. SE SE sec. 14-23-16.
Fishing for D.S. 5,726 ft.

United Gas Public Service Co. No. 2 Ardis & Co., 990 ft. N, 1,650 ft. W, SE corner sec. 14-23-16.
Set 7-in. 5,982 ft.; T.D. 6,015 ft.

United Gas Pub. Ser. Co. No. 4 Ardis & Co., 330 ft. N, 1,650 ft. SE cor. sec. 14-23-16.
Coring 6,005 ft.

United Gas Pub. Ser. Co. No. 5 Bremer Unit, 620 ft. N, 148 ft. W, C sec. 23-23-16.
Drlg. 3,805 ft.

United Gas Pub. Ser. Co. No. 2 Brewer Unit, 657 ft. S, 578 ft. E, NW cor. sec. 29-23-16.
Set 16-in. 315 ft.; drlg. 2,079 ft.

United Gas Pub. Ser. Co. No. 1 Harris, 333 ft. S, 1,123 ft. W, NE cor. sec. 15-23-16.
Drlg. 4,932 ft.

United Gas Pub. Ser. Co. No. 2 V. I. Miller, 330 ft. S, 990 ft. E, NW cor. sec. 14-23-16.
Drlg. 4,835 ft.

United Gas Pub. Ser. Co. No. 1 M. L. Pitts, 990 ft. N, 338 ft. E, SW cor. sec. 13-23-16.
Set 16-in. 320 ft.; drlg. 2,032 ft.

United Gas Pub. Ser. Co. No. 1 N. S. Spearman unit, sec. 18-23-15.
Drlg. 3,680 ft.

United Gas Public Service Co. No. 3 Spearman, 427 ft. S, 660 ft. E, NW corner sec 22-23-16.
D.S. stuck, 6,000 ft.

United Gas Public Service Co. No. 3 Tyson Unit, 1,730 ft. S, 356 ft. E, NW cor. sec. 13-23-16.
Testing 6,028 ft.

United Gas Public Service Co. No. 5 Tyson Unit, 660 ft. S and E, NW cor. sec. 13-23-16.
Drlg. 5,586 ft.

United Gas Pub. Ser. Co. No. 6 Tyson Unit, 306 ft. S, 318 ft. E, NW cor. sec. 13-23-16.
Set 10¾-in. 2,196 ft.

United Gas Pub. Ser. Co. No. 7 Tyson Unit, 345 ft. N, 336 ft. W, SE cor. sec. 11-23-16.
Drlg. 4,002 ft.

United Gas Pub. Ser. Co. No. 7 Rodessa Oil & Land Co., 231 ft. N, 330 ft. W, SE cor. sec. 15-23-16.
Set 10¾-in. 2,170 ft.; drlg. 2,745 ft.

United Gas Pub. Ser. Co. No. 8 Rodessa O. & Land Co., 1,020 ft. S, 1,062 ft. W, NE cor. sec. 22-23-16.
Drlg. 5,246 ft.

United Gas Pub. Ser. Co. No. 9 Rodessa O. & Land Co., 1,091 ft. S, 371 ft. W, NE cor. sec. 22-23-16.
Drlg. 5,057 ft.

United Gas Pub. Ser. Co. No. 10 Rodessa O. & Land Co., 2,348 ft. S, 1,690 ft. W, NE cor. sec. 22-23-16.
Drlg. 5,833 ft.

United Gas Pub. Ser. Co. No. 2 I. L. Young, 1,944 ft. N, 605 ft. W, SE cor. sec. 21-23-16.
Set 16-in. 312 ft.; drlg. 1,144 ft.

Sabine Parish—Zwolle

Ellis Prod. Co. No. 1 Williams, 330 ft. S and W, NE cor. SE NE sec. 23-7-11.
S.D. 1,502 ft.

E. C. TEXAS WILDCATS

Week Ending February 15

Camp Hill Area—Anderson County

Burke Bros. No. 1 S. G. Moore, 285 ft. from N and 330 ft. from E line of 36.5-ac. tract, J. Rossom Sur.
Location.

Conner Todd No. 1 W. T. Todd, 1,264 ft. W and 294 ft. N line of A. B. Patton Sur., Boggy Creek Field.
S.D. 1,400 ft.

Sun Oil Co. No. 2 Carl Rosson, W. T. Davis Sur., 330 ft. from E line and 466 ft. from N line of tract.
Drlg. 1,932 ft.

Cayuga Area

Roeser & Pendleton No. 1-B L. R. Billett, 467 ft. from S and E of M. Ellis Sur.
Drlg. 1,110 ft.

Long Lake Area—Anderson County

Tide Water & Seaboard O. Co. No. 1 M. J. Reagan in John Adams Sur., 1,150 ft. N and 1,400 ft. E line of 214.3-ac. tract.
Austin chalk 4,625-4,886 ft.; coring 5,-322 ft.

Angelina County

Lee-Tex Oil Co. No. 2 Southern Pine Lumber Co. (Guissler), 800 ft. N of No. 1 Guissler, 600 ft. from W line of B. J. Thompson Sur.
S.D. 2,051 ft.; top sand 2,027-37 ft.; to swab; making but little oil.

Morris et al No. 1 Pruyear, con. 165-ac. tract, Thos. Hank Sur., 7 miles E of Huntington.
S.D. 800 ft.

Bowie County

Tex-Ark. Oil Co. No. 1 Hamilton Estate, 600 ft. E and 350 ft. N lines, J. Milan Sur., 4 miles S of Red River.
S.D. 1,121 ft.

Woodley & Bentley No. 1 Lumpkin, 330 ft. out of NE cor. of 245-ac. tract, J. McDermot Sur., 1 mile SW of Dalby Springs.
S.D. 120 ft.

Collin County

Port Bolivar O. & R. Co. No. 1-A Dunning, 24 ft. W of No. 1, Wm. Creager Sur., 2 miles SE of Van Alystin.
Elev. 722 ft.; S.D. 3,865 ft.

Port Bolivar O. & R. Co. No. 1 J. Shirley, 330 ft. N and W of 310-ac. tract, J. Sorrell Sur., 4 miles SE of Anna.
Elev. 684 ft.; S.D. 1,963 ft.

Ellis County

Beasley O. & G. Co., Inc. No. 1 E. Roller, 1,000 ft. from NW and 1,500 ft. from SW line of Sur.
S.D. 160 ft.

Falls County

G. W. Langley No. 1 A. Springfield, F. Herrington Sur., 330 ft. from N line and 330 ft. from W line of 60-ac. tract, NE Bremond.
Elev. 505 ft.; S.D. 900 ft.

Fannin County

Paul Garrett No. 1 G. D. Galloway, 300 ft. from S line and 195 ft. from W line of tract and Wm. M. Rice Sur., 1½ miles S of Leonard.
S.D. 15 ft.

Warner Moore et al No 2 Hancock Est., 1,200 ft. N and 500 ft. E of L. M. Baldock Sur., 1 mile E of Trenton.
S.D. 380 ft.

Schrivner & Clemen No. 1 Parkhurst, 1,100 ft. W and 150 ft. from N line of M. P. Davis Sur. in SW cor. of County.
S.D. 645 ft.

R. Franklin Smith-Allen No. 1 Argo, center of 16½-ac. tract in J. G. Swisher Sur.
S.D. 2,109 ft.

Freestone County

Haley & Young No. 1 Jack Epps, 3,440 ft. S and 480 ft. W of SW cor. of L. J. Parker Sur. but in D. Bullock Sur., 900 ft. NE of Haley & Young No. 1 McKnight, 6¼ miles SE of League.
Elev. 471 ft.; base Austin 4,270 ft.; top sand 4,556 ft.; S.D. 4,561 ft.

Grayson County

Olson Drlg. Co. No. 1 Southwestern Life Ins. Co., center of 160-ac. tract and J. C. Jamison Sur., 6 miles NW of Denison.
Elev. 767 ft.; gas sand 4,441-63 ft.; ran Schlumberger; showed very little porosity; T.D. 4,668 ft.; P.B. to 3,500 ft.; drlg. 4,060 ft.; to set pipe and test show.

Port Bolivar O. & R. Co. No. 1 C. Taylor, 330 ft. S and W of 1,543-ac. tract, Pitzhugh Sur., 2¼ miles SE of Gunter.
S.D. 3,930 ft.

Henderson County

Sparks et al No. 1 P. E. Perry, 1,000 ft. from E and N of most northerly S line of 167.8-ac. tract in A. York Sur., 500 ft. W of H. B. Ashburn dry hole, 5 miles S of Brownsboro.
Derrick.

H. M. Wilson No. 1 fee, 970 varas S of NE cor. of 943-ac. tract, 5 miles N of Malakoff.
S.D. 2,800 ft.

Kaufman County

Murry & Emerson No. 1 G. W. Martin, 1,660 ft. from W and 20 ft. from N of 140-ac. tract, from W. L. C. Butler Sur., 2 miles NE of Kemp.
Top Austin 1,940-74 ft.; S.D. 2,402 ft.

Lamar County

Bruce Bros. No. 1 Chas. Price, 300 ft. from S of most southerly SW cor. and 1,000 ft. from W line of Wm. Nelson Sur., 10 miles NE of Paris, 1 mile W of Trout.
S.D. 336 ft.

W. A. Childs et al No. 1 J. M. Johnson, 2,000 ft. from E and 6,600 ft. from S

line of Luke Roberts Sur., 1 mile W of Depot.
Drlg. 1,020 ft.

L. W. Dennis No. 1 W. C. Clark, 800 ft. from E and 1,800 ft. from N line of G. H. Hall Sur., 3 miles NE of Reno.
Derrick.

L. W. Dennis, tr., No. 1 Mrs. E. Lawrence, 300 ft. from N and 1,160 ft. from W of T. B. Roundtree Sur., 2 miles NE of Blossom.
Derrick.

North Texas Synd. No. 1 D. M. Haines, 1,800 ft. from E and 3,960 ft. from N line of J. R. Craddock Sur., 2½ miles NW of Emerson.
Derrick.

Limestone County

D. Crawford No. 2 Mary Ward, 400 ft. NE of No. 1, Pedro Varella Sur.
S.D. 2,991 ft.

C. L. Lytle No. 1 J. L. Thompson, 120 ft SE and 200 ft. SW lines of tract in P. Varella Sur., in Mexia field.
Drlg. 2,260 ft.

Money Oil Co. No. 1 Rosson Est., 150 ft. from NE and SE lines of Blk 4, Pedro Varella Sur., in Nigger Creek field.
S.D. 1,100 ft.

McLennan County

T. Cunningham No. 1 M. G. McKee, 940 ft. from S and 2,640 ft. W of 640-ac. tract, M. Snell Sur., near Bruceville.
Derrick.

Riley & Barrow No. 1 Hortsman, V. C. Walters Sur., 500 ft. from most northerly N line, 500 ft. from most westerly E line, 500-ac. tract, 1½ miles S McGregor.
S.D. 475 ft.

Nacogdoches County

Rich et al No. 1 Stripling & Hazelwood, 2,500 ft. from S and 5,000 ft. from E line, J. L. Ewing Sur., 15 miles S of Nacogdoches.
Location.

Navarro County

H. Pryor No. 1 Allen Edens, 316 ft. from N and 250 ft. from W of Blk. 17, M. Shire Sur. No. 10., 1 mile NE of Augusta.
S.D. 65 ft.

Thompson & Sitton No. 3 Pugh, 325 ft. SW of No. 1 heirs of Joseph Smith Sur, Powell field.
Location.

Rains County

O. L. Greer No. 1 Ida Bullard, N. Brantley Sur., 1,300 ft. from W line and 300 ft. from N line of 25-ac. tract, 2 miles SW of Emory.
S.D. 117 ft.

Red River County

Abercrombie & Harrison No. 1 T. L. McKnight, 1,054 ft. from N and 2,640 ft. from E line in Robert Hill, 12 or 14 miles N of Clarksville.
S.D. 550 ft.

Joe Dinger et al No. 2 Morris, John Guest Sur., approx. 175 ft. NW of No. 1 Morris, 1 mile S Detroit.
T.D. 825 ft.; S.D.

Joiner No. 1 D. Rust, C. C. Wilborn Sur., 234 ft. N and 254 ft. W of most southerly SE cor. of survey, just S of Avery.
Derrick.

Williams et al No. 1 L. and O. Roberts, 462 ft. from S and 792 ft. from E of 200-ac. tract, James Bankston Sur., 2 miles NE of Annona.
S.D. 160 ft.

Rockwall County

W. H. Carlin No. 1 N. F. Lofland, 150 ft. S and W line of 55-ac. tract, ¾ mile W of Rockwall in Bowles Sur.
Location.

Dodd et al No. 1 N. F. Lofland, 2,250 ft. from N and 3,250 ft. from E line of 393-ac. tract, W. H. Beird Sur., 2½ miles SE of Rockwall.
S.D. 750 ft.

Rusk County

McCallum et al No. 1 E. C. Gary, 600 ft. from E and 340 ft. from N of 265-ac. tract, John Piburn Sur., 5 miles S of Henderson.
Derrick; 4,100 ft. test.

J. W. Shipman et al No. 1 Citizens Natl. Bank, NE cor. of 125-ac. tract, J. J. T'Barbo Sur., 4 miles NE of Henderson.
S.D. 3,300 ft.

Smith County

Sanders et al No. 1 McClung Est., 330 ft. out of SE cor. of McClung 471-ac. tract, S. Epps Sur.; ¼ mi. N of Friendship.
Location.

Frank D. Staples No. 1 Luther Hale, T. C. William Sur., 1,460 ft. from E line and 192 ft. from S line of tract, 3½ miles NW Arp.
T.D. 50 ft.; S.D.

Winona Oil Corp. No. 1 McClung, 330 ft. from S and 150 ft. from W of 23.5-ac. tract, E. Newberry Sur., 1 mile E of Winona.
S.D. 1,165 ft.

Titus County

Howse, Thompson & Peveto No. 1 C. M. Carr, North M. V. Delgado Sur., 2,000 ft. from easterly E line and 1,998 ft. from northerly N line of Sur., 1½ miles E of Talco.
Cored 4,205-09 ft.; recovered 4-in. black saturated sand; set pipe; S.D. 4,208 ft.

C. M. Joiner No. 1 Huernish heirs, 1,950 ft. from N and 666 ft. from E line of Henry P. Banks Sur., 12 miles E of Talco.
Derrick.

S. Rotondi No. 1 Lillianstun, 1,299 ft. E from NW cor. of J. Bodt Sur. and 330 ft. N. but in W. H. Crawford Sur., 5 miles NE of Talco.
Elev. 301 ft.; derrick.

Van Zandt County

Mrs. A. Holton No. 2 A. Crim, 155 ft. from N and E lines, Nacogdoches School lands.
Elev. 490 ft.; S.D.

Wood County

Gulf Prod. Co. No. 1 C. D. McCollum, 330 ft. out of NE cor. of 39.6-ac. tract, Jos. Simpkins, ½ mile S of Alba.
Pecan Gap 2,370-3,612 ft.; top Woodbine series 4,381 ft.; top Woodbine 4,402 ft.; coring 5,172 ft.

GULF COAST WILDCATS

Week Ending February 15

Raccoon Bend—Austin County

Humble O. & R. Co. No. 6-X Austin College, Wm. Harvey Sur.
10¾-in. csg. at 1,106 ft.

Humble O. & R. Co. No. 10-X Bellville, Wm. C. White Sur.
Coring sandy shale 3,994 ft.

Humble O. & R. Co. No. 3 Granau.
T.D. 4,353 ft.; 7-in. csg. 2,186 ft.; P.B. to 3,220 ft.; preparing to test.

Humble O. & R. Co. No. 2-B Bracy, Wm. C. White Sur.
T.D. 3,385 ft.; waiting on pump.

Humble O. & R. Co. No. 1-X Wilson, W. M. Harvey Sur.
Abd. 4,195 ft.

Damon Mound—Brazoria County

Sinclair Prairie Oil Co. No. 23 Masterson Subdv., A. Darst Sur.
Location.

Hastings—Brazoria County

Humble O. & R. Co. No. 4 Cannon, H.T.& B. Sur. No. 36.
Derrick.

Humble O. & R. Co. No. 3 Cannon, H.T.& B. Sur. No. 36.
T.D. 6,050 ft.; top sand 5,958 ft.; fishing.

Stanolind O. & G. Co. No. 1 R. L. Autrey, H.T.&B. Sur. No. 37.
Drlg. shale 1,900 ft.

Stanolind O. & G. Co. No. 2 Autrey, H. T.&B. Sur. No. 37.
Drlg. shale 3,450 ft.

Stanolind O. & G. Co. No. 2 Cannon, H. T.&B. Sur. No. 36.
T.D. 6,050 ft.; running 7-in. csg.

Stanolind O. & G. Co. No. 3 Kidd, A.C.H. &B. Sur. No. 2.
Drlg. shale 5,785 ft.

Stanolind O. & G. Co. No. 4 Shaw, H.T.& B. Sur. No. 36.
T.D. 160 ft.; 16-in. csg. at 91 ft.; W.O.C.

Stanolind O. & G. Co. No. 5 Shaw, H.T.& B. Sur. No. 36.
M.I.R.

Manvel—Brazoria County

Bowles & Barsodi No. 5 Norvell, Lot 45, sec. 23, H.T.&C. Sur.
Derrick.

Burton Drlg. Co. No. 1 Gubbert, center of Lot No. 7 H.T.&B. Survey No. 23.
Derrick.

Texas Co. No. 2 J. L. Lemmer, T. Sproggins Sur.
T.D. 4,130 ft.; 7-in. csg. at 4,102 ft.; I.P. 184 bbls. in 3 hrs.; 1-in. choke.

Texas Co. No. 13-A Belcher, H. N. Little Sur.
T.D. 4,303 ft.; P.B. 3,730 ft.; 7-in. csg. 3,694 ft.; set screen; preparing to P.B.

Texas Co. No. 19-B Belcher, H. N. Little Sur.
Drlg. sand, lime and pyrites at 3,980 ft.

Texas Co. No. 20 Houston Oil Field Assn., Lot 21, A.C.H.&B. Sur.
Drlg. sand 1,330 ft.

Texas Co. No. 20-B Houston Oil Field Assn., Lot 21-A, A.C.H.&B. Sur. No. 91.
Drlg. sand at 5,130 ft.

Anahuac—Chambers County

Humble O. & R. Co. No. 7 Engels, H.&T. C. Sur., sec. 50.
T.D. 7,052 ft.; top sand 6,929 ft.; 7-in. csg. at 7,040 ft.; I.P. 27 bbls. per hr.; ¼-in. choke; T.P. 950 lbs.; C.P. 1,050 lbs.

Humble O. & R. Co. No. 4 Broussard, H.& T.C. Sur.
10¾-in. csg. at 1,514 ft.; T.D. 1,521 ft.

Humble O. & R. Co. No. 7 Broussard, H.& T.C. Sur., sec. 63.
T.D. 7,052 ft.; top sand 6,964 ft.; 7-in. csg. at 7,040 ft.; I.P. 27 bbls. per hr.; ¼-in. choke; T.P. 1,000 lbs.; C.P. 1,050 lbs.

Humble O. & R. Co. No. 9 Broussard, H. &T.C. Sur. No. 63.
Rig up.

Humble O. & R. Co. No. 3 Clark, H.&T. C. Sur., sec. 57.
T.D. 7,090 ft.; top sand 7,046 ft.; 7-in. csg. at 7,043 ft.; complete; no gauge.

Humble O. & R. Co. No. 2 W. C. Tyrell, sec. 52, H.&T.C. Sur.
T.D. 7,094 ft.; top sand 6,914 ft.; 7-in. csg. at 7,029 ft.

Humble Oil & Ref. Co. No. 14 Middleton, sec. 58, H.&T.C. Sur.
T.D. 1,550 ft.; 10¾-in. csg. at 1,536 ft.

Humble O. & R. Co. No. 6 White, J. McGahey Sur.
T.D. 7,110 ft.; top sand 7,082 ft.; 7-in. csg. at 7,081 ft.; I.P. 20 bbls. per hr.; ¼-in. choke; T.P. 900 lbs.; C.P. 800 lbs.

Humble O. & R. Co. No. 7 White, James McGahey Sur.
Rig up.

Humble O. & R. Co. No. 3 Zappe, H.&T. C. Sur., sec. 51.
T.D. 7,095 ft.; 7-in. csg. at 7,041 ft.; completed; no gauge.

Sun Oil Co. No. 7 White, J. McGahey Sur.
Drlg. shale and lime 5,200 ft.

Sun Oil Co. No. 8 White, J. McGahey Sur.
Drlg. shale and lime 3,922 ft.

Sun Oil Co. No. 9 White, J. McGahey Sur.
Derrick.

Sun Oil Co. No. 10 White, J. McGahey Sur.
Derrick.

Barbers Hill—Chambers County

Sinclair Prairie No. 19 Wilburn, Henry Griffith Sur.
Drlg. sandy shale 4,250 ft.

Sun Oil Co. No. 18 Wilburn, Wm. Hodges Sur.
Coring sandy shale 5,249 ft.

Stanolind Oil & Gas Co. No. 20 Wilburn, Wm. Hodges Sur.
Coring in sand 5,654 ft.

Stanolind O. & G. Co.'s No. 29 Chambers, Wm. Bloodgood Sur.
Derrick.

Stanolind O. & G. Co.'s No. 31 Chambers, W. Bloodgood Sur.
T.D. 5,358 ft.; P.B. to 4,408 ft.; swbng. clean oil.

Superior Oil Co. No. 2-B Barber.
T.D. 1,384 ft. in salt; fishing.

Texas Gulf Prod. Co. No. 7 Wilburn, Wm. Hodges Sur.
T.D. 5,350 ft.; sand showing oil; 7-in. csg. at 5,263 ft.; W.O.C.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1 Cooper Heirs, S. Burney Sur.
T.D. 6,625 ft.; top sand 6,601 ft.; 7-in. csg. 6,596 ft.; P.B. and drilled out cement to 6,608 ft.; pulled screen; ran electrical coring test; rerunning screen.

Stanolind O. & G. Co.-State No. 1 Turtle Bay.
20-in. csg. at 55 ft.; W.O.C.

Lost Lake—Chambers County

Pure Oil Co. No. 20 Mayes, E. H. R. Wallace Sur.
Drlg. shale 1,882 ft.

Big Creek—Fort Bend

Gulf Prod. Co. No. 67 Davis, M. Young Sur.
Drlg. shale 2,487 ft.

Trans. State Oil Co. No. 3 Ahlers, M. Young Sur.
13-in. csg. at 1,321 ft.; drlg. plug.

Blue Ridge—Fort Bend County

Gulf Prod. Co. No. 19-B Bassett Blakely, E. Drew Survey.
Drlg. shale and lime 2,968 ft.

Orchard—Fort Bend County

Gulf Prod. Co. No. 44 Moore, Leo Burknapp Sur.
Drlg. sandy lime 5,050 ft.

Gulf Ref. Co. No. 45 Moore, German Immigration Sur. No. 8.
Drlg. shale and lime 5,557 ft.

Gulf Prod. Co. No. 3-A Moore, Leo Burknepp Sur.
Drlg. lime 1,219 ft.

Thompson—Ft. Bend County

Gulf Prod. Co. No. 28 Booth, S. Kennedy Sur.
Drlg. shale 3,565 ft.

High Island—Galveston County

Stanolind O. & G. Co. No. 1-C Marrs-McLean, M. Dunman Sur.
T.D. 5,317 ft.; P.B. to 4,450 ft.; set screen; I.P. 96 bbls. per day.

Stanolind O. & G. Co. No. 5 B.&N.O., Fitzsimmons Sur.
Drlg. shale and lime 4,990 ft.

Stanolind O. & G. Co. No. 54 Cade, W. Fitzsimmons Sur.
Derrick.

Stanolind O. & G. Co. No. 55 Cade, Wm. Hudson Survey.
Derrick.

Stanolind Oil & Gas Co. No. 18-B Smith Royalty, M. Danman Sur.
Derrick.

Dickinson—Galveston County

Coast Pet. Co. No. 3 Stewart, W. K. Wilson Sur.
Drlg. shale 1,500 ft.

Humble O. & R. Co. No. 1-B San Leon, Blk. 102, A. E. Edwards Sur.
T.D. 9,199 ft.; 7-in. csg. at 8,476 ft.; P.B. to 8,442 ft.; I.P. 2 bbls. distillate per hr.; 3/10-in. choke; T.P. 3,100 lbs.; C.P. 2,025 lbs.

Humble O. & R. Co. No. 2-B Bayou Dev. Co.
T.D. 1,959 ft.; running 13⅜-in. csg.

Humble O. & R. Co. No. 3-B Stewart, J. Sellers Sur.
T.D. 8,629 ft.; P.B. 8,550 ft.; tested mud, oil and S.W.; P.B. to 8,470 ft.; D.S. test from 8,410-29 ft.; ¼-in. choke; recovered 900 ft. of gas-cut mud; swbng.

Humble O. & R. Co. No. 5-A Stewart, John Sellers Sur.
Rig.

Humble O. & R. Co. No. 6-A Maco Stewart, J. Sellers Sur.
7-in. csg. 8,974 ft.; T.D. 9,142 ft.; P.B. to 7,148 ft.; swbng.

Humble O. & R. Co. No. 1 W. H. Wilson, Blk. 103, San Leon Farm Subd., A. E. Edwards Sur.
Location.

Pure Oil Co. No. 3 Shelar, H.B.B.&C. Sur.
T.D. 106 ft.; 16-in. csg. at 45 ft.

Stanolind O. & G. Co. No. 2 State, 1,369 ft. E of No. 1 State.
T.D. 9,135 ft.; 7-in. csg. 9,120 ft.; cemented back from 9,060 to 8,980 ft.; P.B. and perforated csg. from 8,040-70 ft. to 7,980 ft.; I.P. 4,000,000 ft. of dry gas daily through ¾-in. choke; T.P. 2,700 lbs.; C.P. 2,500 lbs.

Stanolind O. & G. Co. No. 3 State, Tract 2. T.D. 8,132 ft.; 7-in. csg. 8,080 ft.; P.B. and drilled to 8,050 ft.; cemented back T.D. 4,950 ft.; pulling tubing.

Stanolind O. & G. Co. No. 4 State, Tract 3. Derrick.

Stanolind O. & G. Co. No. 5 State, Tract 3. Waiting on derrick.

Batson—Hardin County

Deering et al No. 2 Jordan, W. Donoho Sur.
Derrick.

John Deering et al No. 1 J. W. Whitley, W. Donoho Sur.
Drlg. sand 4,708 ft.

Saratoga—Hardin County

Hines Oil Co. No. 2 Caswell, B.B.B.&C. R.R. Co. Sur. No. 72.
T.D. 4,950 ft. (corrected).

Pierce Junction—Harris County

Harrison and Abercrombie No. 8 Ritter, J. Hamilton Sur.
W.O.C. 1,200 ft.

Rio Bravo Oil Co. No. 10 fee, B.B.B.&C. Sur.
Rig up.

Rio Bravo Oil Co. No. 4 G.H.&S.A., G.H.& S.A. R.R. track.
Drlg. shale and lime 3,425 ft.

Humble—Harris County

Texas Co. No. 50 Stevenson, J. B. Stevenson Sur.
T.D. 3,526 ft.; showing gas; mixing mud.

Mykawa—Harris County

West Prod. Co. No. 7 Irwin, W. B. Walker Sur.
T.D. 4,500 ft.; oil sand; running tubing; 7-in. csg. at 4,390 ft.; I.P. 560 bbls. per day; ¼-in. choke; C.P. 540 lbs.; T.P. 750 lbs.

South Houston—Harris County

Stanolind O. & G. Co. No. 2 First National Bank, Callahan and Vince Sur.
Derrick.

Stanolind O. & G. Co. No. 1 Griffin, H. T.&B. Sur. No. 36.
Drlg. shale 3,990 ft.

Stanolind O. & G. Co. District No. 10 (workover).
T.D. 6,850 ft.; S.D.

Stanolind O. & G. Co. No. 1, District No. 25, center of Lot 9, Blk. 111, H.T.&B. Sur. No. 5.
T.D. 1,890 ft.; 10¾-in. at 1,874 ft.

Stanolind O. & G. Co. No. 1, District 46, center of Lot 8, Blk. 158, H.T.&B. Sur. No. 5.
Rig up.

Sterling O. & R. Co. (Diadem) No. 1 Summers, cen. Blk. 138, H.T.&B. Sur. No. 5.
Drlg. shale 2,350 ft.

Tomball—Harris County

Amerada Petroleum Corp. No. 4 Nelson, 466 ft. S of N line and 333 ft. E of W J. House Sur.
Drlg. shale and shells 4,435 ft.

Humble O. & R. Co. No. 3 Hillegeist, J. House Sur.
T.D. 5,602 ft.; top sand 5,590 ft.; 7-in. csg. at 5,598 ft.

Humble O. & R. Co. No. 2 Holderrieth, C. N. Pillot Sur., W line of lease.
T.D. 5,554 ft.; top sand 5,542 ft.; 7-in. csg. at 5,551 ft.; W.O.C.

Humble O. & R. Co. No. 1 Tomball Townsite Unit No. 9, J. House Sur.
Drlg. shale 4,374 ft.

Amelia—Jefferson County

Humble O. & R. Co. No. 1 Broussard C. Williams Sur.
Drlg. 45 ft. in clay.

Glenn McCarthy No. 1 Bessie Longe, H. Williams Sur.
10¾-in. csg. at 1,012 ft.; W.O.C.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 2-A Pipkin & Davis, Wm. McFaddin Sur.
T.D. 6,698 ft.; milling at 6,615 ft.

Fannett—Jefferson County

Blue Eagle Oil Co. No. 2 Junker, W. H. Smith Sur.
Drlg. shale 4,701 ft.; no report.

Gulf Prod. Co. No. 6 Junker, Wm. Smith Sur.
P.B. to 5,513 ft.; pumped 52 bbls.

Cleveland—Liberty County

Gulf Prod. Co. No. 13-C Kirby Lbr. Co., John Pleasant Sur.
Drlg. shale and shells 5,617 ft.

Esperson—Liberty County

General Crude Oil Co. No. 1 Halvaty, F. M. Gardner Sur.
T.D. 8,916 ft.; P.B. 6,570 ft.

General Crude Oil Co. No. 13 Davis, D. Kokernot Sur.
Drlg. shale 3,430 ft.

General Crude Oil Co. No. 22 Esperson, D. K. Kokernot Sur.
T.D. 5,878 ft.; P.B. and perforated from 3,970-90 ft.

General Crude Oil Co. No. 23 Esperson, Fisher, Sur.
Rig up.

Hankamer—Liberty County

Gulf Prod. Co. No. 1-A R. J. Weiser, George Stingler Sur.
T.D. 6,305 ft.; P.B. to 4,306 ft.; drlg. shale 4,412 ft.

Bay City—Matagorda County

Skelly Oil Co. No. 1 E. C. Metzger, M. Cummings Sur.
Drlg. shale 4,706 ft.

Skelly Oil Co. No. 4-B Cobb, M. Cummings Sur.
Spudded.

Skelly Oil Co. No. 5-B Cobb, M. Cummings Sur.
Drlg. sand at 4,769 ft.

Markham—Matagorda County

Hamell & Hamell No. 1 Meyers.
Drlg. sand and shale 3,357 ft.

H. & A. No. 6 Kountze, 500 ft. E of No. 5, 1,300 ft. E of W line of lease, H. Parker Survey.
Rig up.

Conroe—Montgomery County

Sun Oil Co. No. 15 Keystone Mills.
T.D. 5,115 ft.; 7-in. csg. at 5,102 ft.; W.O.C.

West Prod. Co. No. 4 Foster Lbr. Co., sec. No. 3.
Drlg. shale 5,447 ft.

Port Neches—Orange County

Texas Co. No. 6-B Polk, J. Beaumont Sur.
Drlg. shale 5,964 ft.

Livingston—Polk County

Hawkeye Pet. Co. No. 2 Nelson, A. Viesca Sur.
Drlg. shale 4,020 ft.

Humble O. & R. Co. No. 23 Granbury, A. Viesca Sur.
T.D. 4,247 ft.; 7-in. csg. at 4,235 ft.; abd.

Ownby-Shell Pet. Corp. No. 8 Pratt, A. Viesca Sur.
T.D. 4,211 ft.; 6⅝-in. csg. 4,194 ft.; testing.

Greta—Refugio County

Hewitt and Daugherty No. 21 Lambert, Blk. 32, C. Hardwick Sur.
Drlg. shale 2,730 ft.

United Prod. Co. No. 22 Lambert, Blk. 32, Hardwick Sur.
T.D. 6,358 ft.; P.B. to 5,450 ft.

Tomoconnor—Refugio County

Quintana Oil Co. No. 30-A O'Connor, Swisher Sur.
Drlg. shale 550 ft.

Quintana Pet. Co. No. 31-A O'Connor, Swisher Sur.
T.D. 5,883 ft.; 7-in. csg. at 5,850 ft.; I.P. 62 bbls. per hr. through ⅝-in. choke.

Placedo—Victoria County

American Liberty Oil Co. No. 3 Gray, S. A.&M.G. Sur.
10-in. csg. at 825 ft.; W.O.C.

Barnsdall Oil Co. No. 3 W. R. Smith, Lot 7, A. Murray Sur.
Drlg. hard sand 5,240 ft.

Barnsdall Oil Co. et al No. 1 J. S. Wheless, J. M. Bronson Sur. No. 8.
Rig up.

Barnsdall Oil Co. No. 3 J. M. Pickering S.A.&M.G. Sur. No. 5.
Rig up.

Eastern Texas Prod. Co. No. 1 Krappa, Lot 12, Wm. Rupley Sur.
T.D. 6,200 ft.; S.W. sand.

Harrison & Abrocrombie No. 1 C. O. Voss, J. M. Bronson Sur.
Moving in.

National Pet. Corp. No. 1 J. Stehle, Piedras Gellardo Sur.
Drlg. rock 3,280 ft.

Superior O. & G. Co. No. 1 Henderson and Pickering, S.A.&M.G. Sur. No. 8.
T.D. 4,786 ft.; oil sand; D.S. test from 4,780-86 ft. showed 3,300 ft. of oil.

Superior O. & G. Co. et al No. 2 Jones, Wm. Rupley Sur., A-290.
Drlg. shale 2,900 ft.

Westgate Oil Co. No. 2 Mieska, S.A.&M.G. Sur. No. 8, A-382.
T.D. 4,768 ft.; 7-in. csg. 4,752 ft.; I.P. 5 bbls. per hr.; ¼-in. choke; T.P. 500 lbs.; C.P. 300 lbs.

Clay Creek—Washington County

Sun Oil Co. No. 3 A. Draper, J. F. Perry Sur.
Coring 848 ft.

Louise—Wharton County

Pure Oil Co. No. 1 Jones, Morris & Cummings Sur. No. 19.
T.D. 5,178 ft.; testing.

Pure Oil Co. No. 3 Weaver, sec. 23, Morris & Cummings Sur.
Moving in rig.

Pickett Ridge—Wharton County

Texas Co. No. 10 Pierce, I.&G.N. Sur. No. 39.
Drlg. lime 4,009 ft.

Texas Co. No. 11-A Pierce, I.&G.N. R.R. Sur. No. 38.
10-in. csg. at 1,321 ft.

Withers—Wharton County

Texas Co. No. 2-C Pierce, John Cardwell Sur.
T.D. 5,563 ft.; 7-in. csg. at 5,555 ft.; W.O.C.

SOUTH LOUISIANA FIELDS

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 11 Bay St. Elaine, sec. 17-22s-18e.
Drlg. shale 5,940 ft.

Bayou Mallet—Acadia Parish

Superior Oil & Prod. Co. et al No. 1 M. Savoy, sec. 47-7s-1e.
Drlg. hard shale 8,025 ft.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 26 Watkins, sec. 18-12s-12w.
Dredging canal.

Shell Pet. Corp. No. 31 Watkins, sec. 8-12s-12w.
T.D. 4,865 ft.; reaming.

Cheneyville—Rapides Parish

Amerada Pet. Corp. No. 1 Beasley, sec. 52-1s-2e.
M.I.R.

Texas Co. No. 1 Weil, sec. 52-1s-2e.
Rig up.

Caillou Island—Terrebonne Parish

Texas Co. No. 2 Terrebonne Bay, sec. 19-22s-26e.
Drlg. sand and lime 2,063 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 1 C. O. Ardoin, C sec. 28-7s-2w.
Derrick.

Continental Oil Co. No. 1 Johnson, sec. 30-7s-2w.
Location.

Continental Oil Co. No. 1 D. J. Miller, sec. 28-7s-2w.
T.D. 3,385 ft.; set 7-in. csg. on bottom.

Continental Oil Co. No. 1 Miller, sec. 29-7s-2w.
T.D. 3,312 ft.; set 5⅜-in. csg. on bottom.

Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Community, sec. 33-10s-2e.
Derrick.

Humble O. & R. Co. No. 10 Community, sec. 32-10s-2e.
Derrick.

Humble O. & R. Co. No. 6 Gumble, sec. 33-10s-2e.
T.D. 239 ft.; 16-in. csg. at 210 ft.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 Bernard, sec. 9-19s-4e.
Building road.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 4 School Land, sec. 16-14s-13w.
Derrick.

Burton Sutton Oil Co. No. 12 School Land, sec. 16-14s-13w.
Rig up.

Magnolia Pet. Co. No. 15 Cameron Meadows, sec. 21-14s-13w.
T.D. 5,262 ft.; top oil sand at 5,254 ft.; 7-in. csg. at 5,242 ft.; flowed oil and S.W.; pulling screen and liner.

Choctaw Dome—Iberville Parish

Standard Oil Co. No. 8 Myrtle Grove Wilburt, sec. 52-9s-11e.
Drlg. shale 5,408 ft.

Standard Oil Co. No. 6 Gay, sec. 52-9s-11e.
Comp. canal.

Four Isle—Terrebonne Parish

Texas Co. No. 5 State, sec. 24-21s-16e.
Location.

Garden Island Bay—Plaquemines Parish

Texas Co. No. 13 State, sec. 107-23s-32e.
Location.

Texas Co. No. 18 State, sec. 37-23s-32e.
Preparing to spud.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 10 Castle, sec. 14-9s-8w.
Drlg. shale 3,161 ft.

Fohs Oil Co. No. 1 Frost, sec. 11-9s-8w.
Rig up.

Texas Co. No. 8 Nickerson, sec. 12-9s-8w.
Drlg. shale 550 ft.

Union Sulphur Co. No. 5 Castle, sec. 14-9s-8w.
Drlg. shale 6,562 ft.

Union Sulphur Co. No. 6 Castle, sec. 13-9s-8w.
Drlg. shale and lime at 5,557 ft.

Union Sulphur Co. No. 6 Clara Barbe Est., 548 ft. S and 387 ft. W of NE cor. of sec. 11-9s-8w.
Drlg. shale 1,250 ft.

Union Sulphur Co. No. 5 Powell Lumber Co., sec. 12-9s-8w.
Derrick.

Union Sulphur Co. No. 17 State, sec. 12-9s-8w.
T.D. 6,687 ft.; testing.

Union Sulphur Co. No. 18 State, sec. 12-9s-8w.
Derrick.

Union Sulphur Co. No. 13 State, sec. 12-9s-8w.
Rigging up.

Gueydan—Vermillion Parish

Pure Oil Co. No. 6 Alliance Trust, sec. 34-11s-1w.
T.D. 9,545 ft.; sidetracked, T.D. 7,304 ft.; drill stem stuck.

Hackberry—Cameron Parish

Browning Oil Co.'s No. 1 Ellender, Sec. 27-12s-10w.
T.D. 3,356 ft.; 6⅝-in. csg. at 3,340 ft.; cut and pulled csg.; S.D.

Calcasieu Oil Co. No. 6 Hanzen, sec. 14-12s-10w.
Location.

Gulf Ref. Co. No. 20 Irwin, sec. 12-12s-10w.
Drlg. shale 6,862 ft.

Stanolind Oil & Gas Co. No. 11-B, Gulf Land, sec. 14-12s-10w.
Rig up.

Stanolind Oil & Gas Co. No. 12-B Gulf Land, sec. 14-12s-10w.
Drlg. gumbo at 960 ft.

Texas Co. No. 11 State, sec. 13-12s-9w (workover).
T.D. 6,602 ft.; 5-in. csg. 6,533 ft.; shut down.

Texas Co. No. 18 State, sec. 44-12s-9w.
T.D. 7,687 ft.; recovered 3,910 ft. of oil on D.S.T. 7,477-7,503 ft. with ¼-inch choke; perforated 7,636-44 ft. and 7,492-7,536 ft.; completed; no gauge.

Texas Co. No. 19-B State, sec. 13-12s-9w.
Location.

Iowa—Jefferson Davis Parish

Shell Pet. Corp. No. 19 Heyd, sec. 13-9s-7w.
Coring sandy shale 8,434 ft.

Shell Pet. Corp. No. 20 Heyd, sec. 13-9s-7w.
Cmtd. surface csg. 1,311 ft.

Shell Pet. Corp. No. 5 Tuten, sec. 13-9s-7w.
Drlg. shale 3,640 ft.

Shell Pet. Corp. No. 7 Stafford, sec. 18-9s-7w.
10¾-in. csg. 1,304 ft.; T.D. 1,306 ft.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 2 Roane, sec. 40-12s-9e.
Drlg. lime and shale 5,738 ft.

Jennings—Acadia Parish

Ratcliff et al No. 7 Martin, sec. 47-9s-2w.
S.D. 1,707 ft.

Stanolind O. & G. Co. No. 15 Houssiere-Latriele.
T.D. 7,485 ft.; preparing to make D.S. test.

Lafitte—Jefferson Parish

Texas Co. No. 3 Rigolettes, sec. 30-17s-24e.
Ready for rig.

Texas Co. No. 3 Lafitte, sec. 19-17s-24e.
Drlg. shale and lime at 7,563 ft.

Texas Co. No. 2 Rigolet Co-operative Co., sec. 30-19s-24e.
T.D. 9,606 ft.; I.P. 1,769 bbls. per day; ⅝-in. choke; T.P. 1,560 lbs.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 4 LaFourche Basin Levee sec. 15-18s-25e.
T.D. 3,528 ft.; P.B. to 3,090 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 33 Lake Barre.
T.D. 3,879 ft.; P.B. to 3,220 ft.; sidetracked at 3,020 ft.; drlg. shale at 3,359 ft.

Texas Co. No. 37 State, sec. 20-12s-20e.
Bldg. derrick.

Lake Pelto—Terrebonne Parish

Texas Co. No. 14 State, sec. 8-23s-18e.
T.D. 7,346 ft.; P.B. and sidetracked; drlg. sand 5,787 ft.

Leesville—LaFourche Parish

Gulf Prod. Co. No. 8 Allen Land Co., sec. 21-21s-22e.
Location.

Texas Co. No. 25 Leesville.
T.D. 5,662 ft.; I.P. 1,029 bbls. per day; ½-in. choke.

Texas Co. No. 23 Leesville, sec. 26-21-22.
Derrick.

Texas Co. No. 41 Leesville, sec. 27-21s-22e.
Cap rock at 4,560 ft.; no report.

Texas Co. No. 43 Leesville (L.L.&E.), sec. 26-21s-22e.
Bldg. derrick.

Texas Co. No. 44 Leesville, sec. 27-21s-22e.
Rig up.

Roanoke—Jefferson Davis Parish

Glassell and Gulf Prod. Co. No. 1 T. A. Anding, sec. 2-9s-4w.
Drlg. shale and lime 5,472 ft.

Shell Pet. Corp. No. 2 Carter, sec. 1-9s-4w.
Drlg. shale and lime 8,380 ft.

Humble O. & R. Co. No. 2 Nelson H. Thomas, sec. 11-9s-4w.
Drlg. shale 3,100 ft.

Humble O. & R. Co. No. 3-B De Vilbiss, sec. 11-9s-4e.
Drlg. shale 7,259 ft.

Port Barre—St. Landry Parish

Gulf Ref. Co. No. 1 Sibille, sec. 7-6s-7e.
Drlg. shale and lime 5,263 ft.

Pacheon Oil Co. No. 1 Gauden, Sec. 4-6s-6e.
T.D. 3,487 ft.; set 6⅝-in. csg. at 3,427 ft.

Pan American Prod. Co. No. 1 Watkins.
Drlg. gumbo 1,005 ft.

St. Martinville—St. Martin Parish

Coastal Oil Co. No. 1 A. O. Landeaux, sec. 5-11s-6e.
S.D. 5,694 ft.; conditioning mud.

Coastal Plains Oil Corp. No. 1 A. L. Domengeaux, sec. 57-11s-6e.
S.D. 5,841 ft.

Tide Water Oil Co. No. 2 Smedes, sec. 57-11s-6e.
Drlg. shale 8,300 ft.

Sweet Lake—Calcasieu Parish

Pure Oil Co. No. 13 Yount Lee, sec. 13-13.
T.D. 7,701 ft.; set 1,275 ft. of 9⅝-in. csg. and 6,439 ft. of 6⅝-in. csg. at 7,701 ft.; temporarily S.D.

Sulphur—Calcasieu Parish

Union Sulhur Co. No. 819 fee, sec. 29-9s-10w.
Drlg. wtr. sand 3,638 ft.

Union Sulphur Co. No. 820 fee, sec. 29-9s-10w.
T.D. 3,269 ft.; running electrical coring test.

Starks—Calcasieu Parish

L. R. Welhite No. 1 Industrial Lbr. Co., sec. 19-9s-12w.
Hard rock 3,260 ft.; no report.

White Castle—Iberville Parish

Shell Pet. Corp. No. 10 Wilbert, sec. 1-11s-12e.
Drlg. sandy shale 4,567 ft.

Vinton—Calcasieu Parish

Ged Oil Co. No. 1 Lisco, sec. 33-10s-12w.
Drlg. shale 1,115 ft.

Gulf Prod. Co. No. 10 Gardner Est., sec. 33-10s-13w.
Rig up.

Miscellaneous Wildcats

TEXAS

Brazoria County

Gulf Prod. Co. No. 1 J. E. Fairfield, A. Robinson Survey.
Drlg. shale 4,050 ft.

Strake Oil Corp. et al No. 1 D. K. Poole, J. W. Harding Sur.
Location.

Texas Co. No. 2 Freeport Sulphur Co., Conception Areola Sur.
Cutting and pulling csg.; hole cleaned to 1,835 ft.; pulling csg.

Burleson County

Red Bank Oil Co. No. 1 Q. B. Crain, W. C. Pierce Sur.
Drlg. sand and shale 2,397 ft., no report.

Chambers County

Black Gold Oil Co. No. 1 Borrow, Ruben Borrow Sur.
S.D. 6,900 ft.

Calhoun County

Continental Oil Co. No. 2-A American Realty Co., Pedro Garcia Sur., Lot 1, Blk. "C."
T.D. 9,083 ft.; washing to bottom to set 5⅜-in. csg.

Crown Central Pet. Co. No. 1 M. C. Driscoll, Benito Morales Sur.
Moving in.

Humble O. & R. Co. No. 1 Mrs. Eliza Welder, Gardner Smith Sur.
Abd. 6,199 ft.

Colorado County

Coyle & Concord No. 1 fee, sec. 45, L.&G. N. Sur.
T.D. 6,675 ft.

Galveston County

Sun Oil Co. No. J. D. Hughes, W. M. C. Baker Sur.
T.D. 8,266 ft.; reaming.

Grimes County

Dr. Marshall et al No. 1-B Todd.
T.D. 2,826 ft.; P.B. to 2,818 ft.; well flowing brackish water with small amt. of gas through ¼-in. choke; S.D.

Harris County

Cockburn Oil Co.-Shell Pet. Corp. No. 1 Tomkins, N. Lynch Sur., Abst. No. 44.
Drlg. shale 5,521 ft.

Harlyn Oil Co. No. 1 Harris County Houston Ship Channel, Richard and Robert Vince Sur.
Cmtng. surface csg. at 800 ft.

A. C. Hill No. 1-A Swilley, C. Victor Blanco Sur.
T.D. 6,891 ft.; P.B. and sidetracked at 2,600 ft.

A. C. Hill No. 1-B Swilley, Victor Blanco Sur.
Drlg. shale 4,725 ft.

Texas Gulf Prod. and Bunte O. & G. Co. No. 1 West Woreland Dev. Co., J. B. Pier Sur.
Drlg. sandy shale 8,882 ft.

E. E. Young, tr., No. 2 P. S. Griffith, A. R. Bodman Sur.
S.D. 4,485 ft.; waiting on csg.

Hardin County

Frank Beaudoin et al No. 1 Walton, A. L. Lancaster Sur.
S.D. 1,900 ft.

Republic Prod.-Houston Oil Co. No. 1 A. A. Burrell, A. A. Burrell Sur. No. 5-A.
Drlg. shale 7,405 ft.

Jefferson County

Humble Oil & Refg. Co. No. 1 Mrs. M. E. Langham, C. Williams Sur. No. A-59.
T.D. 6,903 ft.; top sand 6,770 ft.; tested S.W.; P.B. to 6,777 ft.; 7-in. csg. at 6,669 ft.; I.P. 20 bbls. per hr.; ¼-in. choke; T.P. 675 lbs.; C.P. 800 lbs.

Smith and McDannald No. 1 Grinnell Texas, Blk. 8, H.&T.C. Sur., Bishop Subd., Grigsby Sur.
Location.

Sun Oil Co. No. 1 Herbert & Broussard, B. Blackman Sur., Abst. No. 2.
T.D. 8,824 ft.; P.B. and sidetracked at 8,282 ft.; reaming.

Tatum and Pendergrass No. 1 B. W. Owens, Joseph Grigsley Sur.
S.D. 1,850 ft.; (corrected).

Lavaca County

Goode et al No. 1 J. H. Staffa, W. R. Hensley Sur.
Drlg. shale 1,505 ft.

Matagorda County

Continental Oil Co. No. 1 Feife, J. S. Criswell Sur.
T.D. 7,629 ft.; fishing.

John Deering No. 1 R. A. Estelle, Tone and Jameson Sur.
S.D. 6,525 ft.

Hammon Exploration Co. No. 1 Cleveland, E. Hall Sur.
Shale 9,003 ft.; no report.

Helmerich & Payne, No. 1 Hawkins, D. McCarthy Sur.
T.D. 7,331 ft.; set screen from 7,766-90 ft.; trying to clean tubing.

H. M. Smith et al No. 2 Wadsworth, Lot 33, Blk. 4, S. R. Fisher Sur.
Derrick.

Sterling O. & R. Co. No. 1 Baer Est., Samuel Hart Sur.
S.D. 6,010 ft.

Sun Oil Co. No. 1 Craig, Thomas Williams Sur.
Drlg. sand and shale at 5,236 ft.

Montgomery County

W. C. Battaile No. 1 Caswell, David Davis Sur.
S.D. 350 ft.

Chapman and Smith No. 1 Delta Land & Timber Co., T. Shepperd Sur. No. A-488.
8¼-in. csg. 297 ft.; T.D. 306 ft.; drlg. plug.

Chapman & Smith No. 2 Delta Land & Timber Co., T. Shepherd Sur.
Moving in rig.

Jack Frazier No. 1 Maxey, James Brown Sur.
M.I.R.

W. M. S. Thompson No. 1 Scott, F. A. B. Wheeler Sur.
T.D. 3,674 ft.; P.B. to 3,200 ft.; milled out of csg. at 2,190 ft.; drilled to 2,345 ft. and S.D.

Orange County

Blue Line Oil Co. No. 1 J. E. Peet Richard, Ballew Sur.
T.D. 2,544 ft., reaming.

Polk County

O. C. Davis et al No. 1 Knox, F. Chairs Sur.
S.D. 2,334 ft.

J. P. Lightfoot et al No. 1 Lynch Davidson, Houston County School Land Sur., Abst. No. 270.
Drlg. shale 934 ft.

Refugio County

Texas Gulf Prod. Co. No. 1 Arnold, sec. 33, Bonnieview Subd., Wood ranch.
Abd. 6,554 ft.

San Jacinto County

Cockburn Oil Co. No. 1 Kilburn Moore, J. F. De Rumayor Sur.
T.D. 4,717 ft.; fishing.

John Deering et al No. 1 Randolph, V. Flores Sur.
Derrick.

Goldston & Decker No. 1 Randolph, Vital Flores Sur.
Moving in.

Victoria County

Gulberson and Pettit et al No. 1 Wedemeyer, J. R. Carbajal Sur.
Drlg. shale 4,787 ft.

Southern Oil Co. No. 1 Stehle, Pedro Gallardo Sur.
Shale 2,680 ft.; no report.

Walker County

Bradley et al No. 1 Trinity Lumber Co., J. C. Harrison Sur.
Abd. at 3,320 ft.

Washington County

W. D. Twichell et al No. 1 W. H. Hoxie, S. Ciampit Sur.
Derrick.

Wharton County

Cockburn Oil Corp. No. 1 Conner, sec. 73, E.T.R.R. Sur.
Moving in rig.

Pure Oil Co. No. 1 Paige, James Pirie Sur. T.D. 7,676 ft.; S.D.

Texas Co. No. 1 Joseph Marek, I.&G.N. Sur. No. 76.
Drlg. shale and boulders 859 ft.

SOUTH LOUISIANA

Beauregard Parish

Richardson & Martin No. 1 Southwest Lbr Co.
Location.

Calcasieu Parish

Lahay & Lambert et al No. 1 Landry, sec. 23-11s-10w.
spudded 28 ft. and S.D.

A. G. Oliphant No. 1 Calcasieu National Bank, sec. 23-10s-12w.
Rig up.

Union Sulphur Co. No. 2 Prairie Farm Land & Canal Co., sec. 2-11s-9w.
Drlg. rock 7,937 ft.

Wheeler Oil Corp. No. 1 School Lot, sec. 16-9s-7w.
S.D. 7,210 ft.

Cameron Parish

Magnolia Pet. Corp. No. 1 Miami Corp., sec. 32-12s-8w.
Set 13-in. csg. at 2,220 ft.; W.O.C.

Concordia Parish

Zeni Oil Co. No. 1 E. J. Young, sec. 26-6n-8e.
S.D. 510 ft.

Evangeline Parish

Bastle Oil Co. No. 1 Haas-Hirsch, sec. 14-4s-2w (work over).
Drlg. shale and lime 8,263 ft.

J. E. Ladue No. 4 Vidrien, Sec. 34-3-2.
S.D. 1,635 ft.

Sparks-Mitchell and Jacobson's No. 1 Vidrine, sec. 47-4s-2e.
S.D. 1,535 ft.

East Feliciana Parish

Thompson Creek Oil Co. No. 1 Fannie Noland, sec. 70.
S.D. 1,589 ft.

West Feliciana Parish

Southern Minerals Corp. No. 1 Mary B. Wood, sec. 54-1s-4w.
T.D. 1,138 ft.; fishing.

C. L. Thompson No. 1 Percy.
Derrick.

Iberia Parish

Canal Oil Co. No. 1 Bolivar, sec. 2, in sec. 56-12s-7e.
Shale 5,950 ft.; no report.

Jefferson Lake Oil Co. No. 1 State, Twp. 12s-6e.
T.D. 8,469 ft.; P.B. to 8,464 ft.; drlg. shale 8,440 ft.

Jefferson Lake Oil Co. No. 225 State Lake Pleasure.
T.D. 3,424 ft.; moving in rig.

Kites Oil Co. No. 2-A Sealey, sec. 56-12s-7e.
Rig up.

Meade Oil Co. No. 1 Hamilton, sec. 35-12-6.
S.D. 200 ft.

Texas Co. No. 1 State Fausse Point.
D.S. stuck at 6,460 ft.; milling on csg. at 6,644 ft.; fishing.

Jefferson Davis Parish

J. K. Lewis No. 1 Lockmore, sec. 32-7-6.
T.D. 5,710 ft.; T.D. of sidetracked hole 5,510 ft.; T.D. 5,580 ft.; prepare to P.B.

Shell Pet. Corp. No. 1 Lacassan, sec. 20-11s-5w.
T.D. 9,344 ft.; prepare to core after showing gas.

LaFourche Parish

Coastal Oil Co. No. 2 Constantine, sec. 26-21-22e.
Location.

St. Bernard Parish

Emerald Pet. Corp.'s "Shell Beach Properties," sec. 31-13s-15e.
T.D. 7,385 ft.; hole caved in while S.D at 5,480 ft.; cemented 7-in. csg. at 5,480 ft.; T.D. of sidetracked hole 6,316 ft.; preparing to core.

Southern Sulphur Co. No. 1 Lake Borgne, sec. 13s-16e.
S.D. 1,723 ft.

St. James Parish

Shell Pet. Corp. No. 1 Colonial Sugar, sec. 5-12s-5e.
Coring shale 3,214 ft.

St. Martin Parish

S. C. Yingling et al No. 1 State, sec. 13-9s-8w.
Rig up.

S. C. Yingling No. 2 State, sec. 13-9s-8w.
Location.

Texas Co. No. 8 St. Martins Land, sec. 17-8s-7e.
Drlg. sandy shale 4,907 ft.; show oil 4,753-60 ft.

Plaquemines Parish

Southern Sulphur Co. No. 1 Manhattan Fruit Co., sec. 26-21s-30e.
Drlg. shale 3,455 ft.

Vermillion Parish

Delcambre & Shelton No. 1 Adam Delcambre, sec. 63-17-5.
T.A. at 2,704 ft.

Vernon Parish

Llano Cooperative Oil Co. No. 3 Llano Del Rio, sec. 7-1n-9w.
Shale 2,627 ft.; no report.

Terrebonne Parish

Shell Pet. Corp. No. 1 Realty Operators, sec. 76, Sur. 103, 17s-17e.
Coring sand and shale 9,096 ft.

Wilkinson County—Mississippi

Charles Green et al No. 1 Foster Creek Lbr. Co., sec. 8-3n-1e.
Coring shale and sand at 3,870 ft.

S. W. TEXAS WILDCATS

Week Ending February 15

Atascosa County

R. C. Lee No. 1 Damsch, 160 ft. S line, 300 ft. E line, 152-ac. lease, J. T. Russell Sur. No. 1,222.
Drlg. 1,636 ft.

Cliff Oil Co. (McIntyre) No. 1 Joint Stock Land Bank Co., 1,104 ft. SW line, 2,700 ft. SE line, Woodlief Sur., 246.
Drlg. 2,168 ft.

L. L. Motes et al No. 1 Atascosa, 1,300 ft. W line, 200 ft. N line, Farm tract No. 79, McNeill Sur.
Fishing 806 ft.

Bee County

Herbert Aid No. 1 Booth, 150 ft. N line, 330 ft. W line, tract, Blanchard Sur.
Drlg. 2,620 ft.

Geo. W. Church's No. 1 Hearn, 2,000 ft. S No. 1 Wood.
Perf. 5,898-5,913 ft.; flowing S.W.; T.D. 5,935 ft.

Dirks Bros. No. 1 Scott, 1,190 ft. SW cor., Juan Molina Sur., Uranga grant.
Drlg. 2,310 ft.

H. A. Pressey No. 1 Hicks, 1,450 ft. of S line, 150 ft. of W line, lease, J. Uranga Grant.
Drlg. 113 ft.

G. M. Richardson No. 1 Mengers, center 500-ac. tract, Ryan estate, William Allen Sur.
W.O. rig.

Bexar County

J. Dupree No. 1 Coffey, Rodriguez Sur.
T.D. 1,123 ft.; recmtng.

Joe Dupree No. 1 Russell, 1,500 ft. SE No. 1 Coffey.
T.D. 1,001 ft.; acid treating.

A. A. Murrell No. 1 fee, Blk. 3, Lot 20, J. DeGant Sur.
Drlg. 100 ft.

H. A. Pagenkopf No. 1 Ritteman, 2,500 ft. E line, 500 ft. N line, C. Texada Sur.
Drlg. 1,617 ft.

F. M. Shaner No. 1 Bitter, Baerrera Sur.
T.D. 854 ft.; dry and abd.

Brooks County

California Co. No. 1 B. Garcia, 465 ft. N and W lines lease, B. Garcia tract, Salinas Sur.
Coring 3,370 ft.

Dick Young No. 1 Singer, 50 ft. E line, 660 ft. N line, NW¼ SE¼, Sur. 812.
S.D. 774 ft.

Dewitt County

Hill Bros. & Koontz No. 1 Herman Riddle, 450 ft. S line, 330 ft. W line, 535-ac. tract, Santos Sur.
Coring 2,503 ft.

Universal Oil, Gas & Mining Co. No. 1 Schuebel, 330 ft. from S and W lines of tract, Fitzgerald grant.
No report.

Duval County

Continental Oil Co. No. 8-A Driscoll, sec. 52, Santa Rosalie grant.
Drlg. 2,664 ft.

Chas. Daubert No. 1 Kreis, 2,600 ft. N line, 2,700 ft. E line, Sur. 518.
Drlg. 1,517 ft.

Frank Gravis No. 1 C. K. Gravis, 1,650 ft. SE line, 990 ft. SW line, Sur. 250.
Sand 2,299-2,316 ft.; tested S.W.; drlg 2,345 ft.

Howard Pet. Co. No. 1 Ruiz, 2,640 ft. NW line, 660 ft. NE, Sur. 12.
Location.

Magnolia Pet. Co. No. 1 Bennett, 330 ft. S and E lines, Sur. 434.
T.D. 3,971 ft.; dry and abd.

Porter & Blanchard No. 1 Milano Land & Garden Co., 330 ft. N and W lines, Sur. 85.
Drlg. 2,211 ft.

Rogers & Rogers No. 1 Cuellar, 330 ft. NE line, 990 ft. NW line, sec. 117.
Recementing 2,871 ft.

Santa Clara Oil Co. (Atkins & O'Neil) No. 1 Glasscock, 3,945 ft. E line, 9,985 ft. S line, Book ranch, Concepcion grant.
Drlg. 3,191 ft.

Santa Clara Oil Co.'s (Atkins & O'Neil) No. 1-A James F. Welder Heirs, 330 ft SW cor. 640-ac. tr. lying W of sec. 535 in sec. 103.
Loma Novia sand 2,915-20 ft.; D.S.T. 7 min., 185 ft.; pipe line oil; comp. on pump.

Edwards County

Paul Teas No. 1 Stewart, C SE¼ sec. 2, G.C.&S.F. Sur.
T.D. 1,026 ft.; rigging up.

Frio County

Amerada Pet. Corp. No. 1 Correy & MacWilliams, 660 ft. N line, 125 ft. E line, Blk. 13, Jose Arocha Sur. No. 298.
T.D. 5,569 ft.; set csg. 5,436 ft.; W.O.C.

W. D. Bacon's No. 1 Burns, 2,500 ft. and W line, Thomas Clifton Sur.
T.D. 3,008 ft.; dry and abd.

Goliad County

Diamond Half Oil Co. No. 2 Gillette, 990 ft. SW line, 330 ft. NW line, lease, J. Gomez Sur.
Location.

Port Isabel O. & G. Co. No. 1 P. Duderstadt, 330 ft. N and E lines tract, S. Hall Sur.
Drlg. wtr. well.

Thompson Drlg. Co. No. 1 J. E. Pettus, 2,750 ft. S line, 750 ft. creek, Barbo Sur. No. 51.
Rigging up.

Guadalupe County

Paul Armstrong and J. E. Clark No. 1 Brodnoux, 150 ft. S and E lines, 24-ac. tract, W. P. King Sur.
Drlg. 1,505 ft.

O. W. Killam No. 1 Renecker, 150 ft. NW and NE lines, G. Chatwell Sur.
Drlg. 1,253 ft.

Ace Locke No. 1 Holmes, 20-ac. tract, Cyrus Campbell Survey.
Drlg. 541 ft.

Fred Scott No. 1 Shultz, Ed. Pettus Sur.
Drlg. 203 ft.

W. J. Walton No. 1 Zobowski, 227-ac. tract, J. D. Clements Sur.
Spudded in.

Hidalgo County

Gerald Oil & Gas Co. No. 1 Nelson Mortgage Co., Blk. 38, Lot A, La Donna tract.
Spudded in.

Gulf States Oil Co. No. 1 Delta Orchards, 580 ft. from N line, 400 ft. W line, Lot 2, Blk. 73, Las Mestanas grant.
Drlg. 3,500 ft.

Maddox & Tatum No. 1 John Shary, Tr. 48-2, Porc. 53, Jurisdiction of Reynosa.
Drlg. 3,108 ft.

H. J. Porter No. 1 Swallow, 660 ft. N and E lines, Lot 5, T.M.S.&I. Co. tract.
Location.

Quintana Petroleum Co. No. 1 John C. Engleman, Lot 10, Blk. 94, Las Mestanas Grant.
Drlg. 2,413 ft.

Jim Hogg County

French Oil Corp.'s No. 1 E. Rodriguez, Share M-1, partition, Las Cuevitas grant.
Fishing 2,775 ft.

S. L. Miller Oil Co. No. 1 Yeager, 150 ft. E line, 477 ft. S line, Blk. 6, Sur. 20.
Drlg. 3,398 ft.

Rankins No. 1 Vela, Lot 6, Sur. 5.
T.D. 1,911 ft.; fishing.

Jim Wells County

O. W. Killam No. 1 Reynolds, C S half Sur. 24.
Rigging up.

H. Modes No. 1 B. W. Owens, 620 ft. N line, midway E and W lines tract, Poitevent Sur. 151.
Derrick.

G. M. Richardson No. 1 Garrett, 1,980 ft. S line, 1,640 ft. E line, sec. 5, N. G. Collins grant.
Rigging up.

Kerr County

Auld and Evans' No. 1 Heffner, 660 ft. N line, 330 ft. E line, Sec. 13, B.S.&F. Sur.
T.D. 1,380 ft.; S.D.

Eastland Oil Co. No. 7 Love, 660 ft. N Evans & Gant No. 1 Love, Martinez Sur. No. 1,594.
No report.

Evans & Edmiston's No. 1 Will Auld, 2,500 ft. SE No. 1 Love, 150 ft. S line lease, sec. 1,592.
Rigged up.

Kleberg County

John Bartlett's No. 1 Anton Deitz, SE¼ SE¼ Sec. 48, K.T.&I. Subd.
No report.

Live Oak County

Dirks Bros. No. 1 Dougherty, 330 ft. NW line, 960 ft. NE line, 320-ac. tract, Beagle Sur.
Moving in material.

R. H. Feltner No. 1 J. T. Carter, Sur. 319.
Drlg. 1,630 ft.

Santa Clara Oil Co.'s (Atkins & O'Neil) No. 1 Corbett, sec. 3, R. H. Corbett Sur.
Drlg. 3,542 ft.

L. W. Steiren No. 1 Smith, T. B. Reese Sur.
Fishing 1,700 ft.

Maverick County

I. N. Boicourt No. 1 Bandera School Land, 3,060 ft. E line, 2,550 ft. S line, lease, Sur. 231.
Location.

McMullen County

Magnolia Pet. Co. No. 1 Kincaid, 2,310 ft. W line, 330 ft. N line, Sur. 86.
Rigging up.

Earl Rome No. 1 Lee, 330 ft. S and W lines, NE¼ SE¼ sec. 34.
Location.

Whisenant & Trenchard No. 1 Roos Bros., C SE¼ SE, Sur. 93.
Drlg. 357 ft.

Medina County

W. C. Campbell's No. 1 McMenemy, 160 ft. S and W lines, Sur. 33.
T.D. 2,892 ft.; P.B. to 2,840 ft.; drlg. plugs.

Gates & Hill No. 5 Odem, H. Castro Sur. No. 174.
Spudding in.

San Patricio County

H. Reid et al No. 1 Svedlenak, 330 ft. N and W lines, Lot 1, sec. 5.
Drlg. 2,747 ft.

Stanolind Oil & Gas Co. No. 1 Floerke, 150 ft. NE line, 1,320 ft. SE line, Lot 5.
T.D. 3,834 ft.; standing.

Texon Drlg. Co. No. 1 Rambo, 330 ft. W line, 466 ft. N line, Lot 6, sec. 35.
Rigging up.

Starr County

O. C. Borah No. 1 Virginia C. de Guerra, 3,500 ft. N line, 2,000 ft. E line, Share 92, Por. 68, Jurisdiction of Mier.
T.D. 263 ft.; S.D.

J. H. Clopton No. 1 Kelsey Bass, center Sec. 357.
Drlg. hard shale 2,289 ft.

J. H. Clopton No. 2 Kelsey Bass, sec. 377.
Location.

Coreta Oil Co. No. 1 Haden et al, Share 47, Por. 80, Jurisdiction of Camargo.
Reported in sand 1,350-1,450 ft.

A. J. Weyel, tr. No. 1 Wood, 2,500 ft. N Rio Grande River, 2,500 ft. E line, Por. 84.
Flowing gas and S.W.; standing 2,140 ft.

Webb County

Austin & Vernon's No. 1 Jeffries, 150 ft NE line, 1,170 ft. SE line, Blk. 13, Sur 1,453.
No report.

Clopton & Doffing's No. 1 Slator, center Blk. 29, Borrego grant.
T.D. 2,625 ft.; dry and abd.

Lu-Texas Oil Co. No. 1 L.S.C.C., Por. 12.
Standing 2,004 ft.

Mills Bennett Prod. Co. No. 1 Guerra, 330 ft. S and E lines, S½, W½, Sur. 709.
Drlg. 3,330 ft.

Payne & Martines No. 1 Perry, 150 ft. NE and NW lines, Sur. 771.
Location.

Arthur H. Wray No. 1 Geo. Stuempke, Share 1, Brewster pasture, Galan grant.
T.D. 1,678 ft.; dry and abd.

Southwest Drlg. Co. No. 1 R. Lopez, 330 ft. S and W lines, NE¼, Sur. 139.
Derrick.

Zavalla County

W. L. Bridges No. 1 Price & Flowers, 1,320 ft. N and W lines, Blk. 1, sec. 19, I.G.N. Ry. Sur.
Location.

Buttram Pet. Co. No. 1 White Cotton, 1,340 ft. W line, 330 ft. N line, A.B.&M. Sur. No. 1.
Moving in rig.

Leona Oil Co. and Witherspoon Oil Co. No. 1 George West, 3,665 ft. N line, 330 ft. E line, C. Bustillo Sur. No. 1.
Rigging up.

Zapata County

Murt Cullinan No. 1 Gutierrez, Blk. 4, Share 2, Pansier Partition, Comitas grant.
S.D. 2,014 ft.

J. J. O'Hern's No. 1 Raymond, 330 ft. NW line, 330 ft. NE line, Blk. 5, Share E, Por. 37.
No report.

S. W. TEXAS PROVEN

Week Ending February 15

Caesar—Bee County

Luling Oil & Gas Co. No. 6 Miller, 130 ft. S line, 550 ft. E line, 100-ac. tract, Franklin Lewis Sur.
T.D. 3,030 ft.; dry and abd.

McAlester Fuel Co. No. 4 Vaughn, 450 ft. E line, 150 ft. SW line, F. Lewis Sur.
Location.

Dirks—Bee County

Illinois Pet. Co. No. 1-B Hall, 660 ft. SW

and NW lines, lease, Butler Sur.
Moving in material.

Illinois Pet. Co. No. 9-B Hall, 2,313 ft. SW line, 1,484 ft. SE line, lease, Butler Sur.
Location.

Illinois Pet. Co. No. 10-B Hall, 600 ft. SW and NW lines, lease, Butler Sur.
Rigging up.

Sun Oil Co. No. 5 Page, 330 ft. NE cor. tract, Young Sur., Abst. No. 588.
Set csg. 193 ft.; W.O.C.

Eckert—Bexar County

Alamo Nat. Gas Co. No. 1 Minnie Coreth, Sur. 49.
T.D. chalk 1,091 ft.; testing.

Eckert & Sons No. 10 Brenham, 500 ft. E No. 9, P. L. Buquar Sur.
Comp.; 10 bbls. per day.

Von Ormy—Bexar County

N. Anderson No. 1 Henry Fest, Blk. 4,014, F. Rollins Sur. No. 48.
Location.

Dale—Caldwell County

Ogden & Reed No. 2 Vickery, 550 ft. NE line, S. Damon Sur.
Rigging up.

Salt Flat—Caldwell County

Witherspoon Oil Co. No. 1 Tiller, 175 ft. N and W lines tract, G. Hinds Sur.
Drlg. 1,211 ft.

Charamousca—Duval County

Sun Oil Co. No. 3 Worden-Draught, 2,160 ft. of E line, 1,660 ft. of N line, Sur. 151.
Sand 1,683-89 ft.; S.W.; T.D. 1,709 ft.; dry and abd.

Eagle Hill—Duval County

Marzo Oil Co. No. 2 Hagist, 480 ft. E of No. 1, Survey 6.
Set csg. 2,107 ft.; W.O.C.

W. C. McBride No. 1 Hagist, 230 ft. S and W lines, Blk. 13, sec. 267.
Set csg. 2,126 ft.; W.O.C.

Government Wells Pool—Duval County

Tom Graham No. 2 Webb, 330 ft. E line, 1,320 ft. N line, 68½-ac. tract, Sur. 41.
Top sand 2,336 ft.; coring.

Magnolia Pet. Co. No. 4 Leffler, Sur. 47.
Sand 2,268-79 ft.; gas; coring 2,283 ft.

Magnolia Pet. Co. No. 4 Moody, 660 ft. N of No. 3, N½ SW¼ Sur. 60.
Drlg. 2,011 ft.

Hoffman—Duval County

Duval Oil Corp. No. 1 D. Ruiz, 330 ft. N line, 990 ft. E line, Sur. 119.
Spudded in.

Hamil & Smith No. 1 B.C.C., 330 ft. N and E lines, NW¼ NE¼ Sur. 70.
Location.

Rogers & Rogers Drlg. Co. No. 2 Hoffman, 380 ft. E line, 1,698.5 ft. S line, 640-ac. tract, Sur. 118.
Drlg. 1,093 ft.

Rogers & Rogers Drlg. Co. No. 2 Sutherland, 1,070 ft. S and E lines, E½ Sur. 120.
Location.

Standard Oil Co. of Kansas No. 1 Hoffman, 330 ft. SW and N lines 80-ac. tract, Sur. 18.
Location.

Loma Novia—Duval County

Bridwell Oil Co. No. 5 B.C.C., S½, Sur. 76.
Comp.; 20 bbls. per hr. on ½-in. choke; T.D. 2,591 ft.

Bridwell Oil Co. No. 11 B.C.C., 990 ft. N and W lines, SW¼ Sur. 76.
Drlg. 2,011 ft.

Bridwell Oil Co. No. 12 B.C.C., SW¼ Sur. 76.
Drlg. 993 ft.

Bridwell Oil Co. No. 1-C Hubbard, 330 ft. S and E lines, NE¼ SW¼, Sur. 75.
Rigging up.

R. DeLange No. 3 Moody, SE¼ NE¼ sec. 76.
Set csg. 2,731 ft.; W.O.C.

Rodney DeLange No. 8 B.C.C., SE¼, Sur. 76.
Rigging up.

Duval Oil Corp. No. 12-B Moody, 990 ft. E line, 330 ft. S line, Sur. 60.
Location.

Eastern Texas Pet. Co. No. 3 Hubbard, 330 ft. N line, 990 ft. W line, SW¼, Sur. 71.
Sand 2,765-87 ft.; drlg. plugs.

Frank Gravis No. 5 Byland, 330 ft. N and E lines, Blk. 3, Sur. 78.
Set csg.; W.O.C.; T.D. 2,571 ft.

C. Hamil No. 3-B Hahl, Sur. 63.
Testing; sand 2,633-43 ft.

C. Hamil No. 4-C Hahl, 330 ft. N and E lines, SE¼, Sur. 63.
Sand 2,586-2,600 ft.; testing.

C. Hamil et al No. 3-D Hahl, Sur. 76.
Sand 2,633-43 ft.; comp.; 16 bbls. per hr.; T.D. 2,643 ft.

Hamil, Smith & Ogden No. 13 Hubbard, 330 ft. N and E lines, NE¼ SE¼ sec. 77.
Derrick.

Hamil, Smith & Ogden No. 17 Hubbard, 330 ft. SW cor., SE¼, SW¼, Sur. 77.
Sand 2,684-92 ft.; testing.

Highland Oil Co. No. 26 Hubbard, 990 ft. NE cor. W¼, Sur. 72.
Sand 2,697-2,705 ft.; testing.

Highland Oil Co. No. 6-D Hahl, sec. 63.
Sand 2,576-87 ft.; W.O.C.

Humble O. & R. Co. No. 7-A Hubbard, 990 ft. W line, 1,650 ft. S line, sec. 84.
Rigging up.

Humble O. & R. Co. No. 2-B Hubbard, 330 ft. N line, 990 ft. W line, Sec. 83.
Comp.; 15 bbls. per hr. on ½-in. choke; T.D. 2,779 ft.

Humble O. & R. Co. No. 3-B Hubbard, 330 ft. N line, 1,650 ft. W line, W 320-ac. tract, Sur. 83.
Spudding in.

Humble O. & R. Co. No. 6 Vela, 330 ft. S line, 3,020 ft. E line, N½, Sur. 42.
Sand 2,667 ft.; swbd. S.W.

Kaffee Lbr. Co. No. 1 Davidson, 169 ft. N line, 330 ft. W line, 5-ac. tract, Lot 14, Sur. 114.
Location.

Magnolia Pet. Co. No. 3 Hahl, 1,650 ft. N line, 330 ft. W line, Sur. 67.
Rigging up.

Magnolia Pet. Co. No. 13 Hahl, 640-ac. tract, Sur. 67.
Comp.; 22 bbls. per hr. on ½-in. choke; T.D. 2,583 ft.

Magnolia Pet. Co. No. 14 Hahl, 1,587 ft. W line, 330 ft. S line, Sur. 67.
Rigging up.

Magnolia Pet. Co. No. 20 Hahl, 330 ft. W line, 990 ft. S line, Sur. 67.
Drlg. 2,400 ft.

Magnolia Pet. Co. No. 21 Hahl, 990 ft. E line, 330 ft. S line, Sur. 67.
Sand 2,666-78 ft.; comp.; 18 bbls. per hr. on ½-in. choke; T.D. 2,886 ft.

Montour Prod. Co. No. 4 Hubbard, Sur 75
Sand 2,606-25 ft.; comp.; 100 bbls. daily.

Pitkin & Goldston No. 1 B.C.C., 330 ft. N and E lines, tract, Sur. 57.
T.D. sand 2,774 ft.; S.D. for orders.

Reynosa Oil Co. No. 2-A McLean, 990 ft. E line, 330 ft. S line, lease, Sur. 62.
T.D. 2,555 ft.; testing.

Rogers & Rogers Drlg. Co. No. 2 Sutherland, 1,070 ft. S and E lines, E½ Sur. 120.
Location.

Shell Pet. Corp. No. 21 Hubbard, 974 ft. E line, 330 ft. S line, E½, Sur. 77.
Location.

Standard Oil Co. of Kansas No. 1 Hoffman, 330 ft. SW and N lines, 80-ac. tract, Sur. 118.
Location.

Texas Co. No. 22 Wendt, 990 ft. E line, 1,650 ft. S line, Sur. 68.
Drlg. 210 ft.

Rosan Oil Co. No. 8 Hubbard, 662 ft. E of No. 7, 330 ft. S line lease, Sur. 84.
Drlg. 2,011 ft.

Russ Pet. Co. No. 1 Hahl, 330 ft. S & E lines, SW¼, Sur. 63.
Sand 2,576-84 ft.; testing.

Shell Pet. Corp. No. 3 Hahl, 990 ft. E line, 330 ft. S line, Sur. 74.
T.D. 2,586 ft.; swabbing.

Shell Pet. Corp. No. 20 Hubbard, 330 ft. S and E lines, lease, Sur. 77.
T.D. sand 2,752 ft.; W.O.C.

Shell Pet. Corp. No. 23 Hubbard, 330 ft. S & W lines, Sur. 77.
Comp.; 57 bbls. per hr. on ¼-in. choke; T.D. 2,713 ft.

Texas Co. No. 9 B.C.C., N¼, Sur. 59
T.D. 2,565 ft.; comp.; pumping 75 bbls. per day.

Texas Co. No. 10 B.C.C., 660 ft. N No. 9, sec. 59.
Sand 2,538-45 ft.; set csg.; W.O.C.

Texas Co. No. 15 Wendt, 330 ft. S line, 4,950 ft. W line, 458-ac. tract, sec. 68.
T.D. 2,791 ft.; comp. on pump; 100 bbls. per day.

Texas Co. No. 16 Wendt, 854 ft. E line, 330 ft. S line, lease, Sur. 68.
Sand 2,789-99 ft.; set csg.; W.O.C.

Texas Co. No. 19 Wendt, 330 ft. N line, 3,020 ft. W line, Sur. 68.
Sand 2,680-88 ft.; comp.; 15 bbls. per hr. on ½-in. choke.

Texas Co. No. 21 Vela, Sur. 42.
Comp.; 18 bbls. per hr. on ½-in. choke; T.D. 2,722 ft.

Texas Co. No. 22 Vela, S½, Sur. 42
Comp.; 21 bbls. per hr.; sand 2,704-17 ft.

Texas Co. No. 23 Vela, S½, Sur. 42.
Drlg. 1,152 ft.

Texas Co. No. 32 Vela, Sur. 42.
Rigging up.

Texas Co. No. 33 Vela, 2,310 ft. E line, 330 ft. N line, S½ Sur. 42.
Drlg. 2,550 ft.

Valley Osage Oil Co. No. 1 Moody, N½, SE¼, Sur. 40.
Sand 2,550-65 ft.; testing.

Valley Osage Oil Co. No. 1 Hubbard, W½, Sur. 75.
Derrick.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 7 D.C.R.C., 990 ft. S and W lines, Sur. 100.
Set csg. 1,962 ft.; W.O.C.

Texas Co. No. 13 D.C.R.C., 330 ft. S and E lines, SW¼ Sur. 100.
Location.

Seven Sisters—Duval County

Atlantic Oil Prod. Co. No. 11-A Welder, Sur. 385.
Sand 2,507-14 ft.; set csg.; W.O.C.

Atlantic Oil Prod. Co. No. 12-A Welder, 350 ft. E line, 330 ft. N line, Sur. 385.
Location.

Atlantic Oil Prod. Co. No. 4-B Welder, 330 ft. S and W lines, S½ SE¼, Sur. 385.
P.B. to 2,234 ft.; tested salt water; S.D. for orders.

Atlantic Oil Prod. Co. No. 5-B Welder, 990 ft. N & W lines, lease, SW¼, SE¼, Sur. 385.
Sand 2,487-97 ft.; Comp.; 10 bbls. per hr. on ¼-in. choke; T.D. 2,497 ft.

Atlantic Oil Prod. Co. No. 6-B Welder, 330 ft. N and E lines, W½ SE¼, Sur. 385.
Drlg. 500 ft.

Atlantic Oil Prod. Co. No. 1-C Welder, 2,310 ft. W line, 330 ft. N line, Sur. 591.
Sand 2,517-24 ft.; set csg.; W.O.C.

Atlantic Oil Prod. Co. No. 4-C Welder, 1,650 ft. W line, 330 ft. N line, Sur. 591.
Location.

Harvey-Henderson-Dulce No. 1-A Chernesky, 1,152 ft. W line, 260 ft. S line, Sur. 226.
Sand 2,020-29 ft.; comp. on pump, 40 bbls. per day.

Humble O. & R. Co. No. 1 Wright, 330 ft. S and E lines, SE¼, Sur. 118.
Rigging up.

Humble O. & R. Co. No. 6 T. D. Smith, 2,900 ft. N line, 330 ft. E line, Sur. 382.
Sand 2,464-86 ft.; comp.; 15 bbls. per hr.

Humble O. & R. Co. No. 5-A Serna, 1,650 ft. W line, 330 ft. N line, SW¼, sec. 384.
Location.

Humble O. & R. Co. No. 4-B Serna, 990 ft. E line, 330 ft. S line, S½, SE¼, Sur. 384.
Set csg. 2,510 ft.; W.O.C.

Pan American Pet. Co. No. 1-A Welder, 330 ft. E line, 990 ft. S line, Sur. 381.
Sand 2,439-51 ft.; swbng.

Pan American Oil Co. No. 3-A Welder, Sur. 381.
Location.

Richardson & Kleiner's No. 1 Welder, 990 ft. E line, 330 ft. S line, S½, NE¼, Sur. 381.
Coring 2,220 ft.

Santa Clara Oil Co. (Atkins & O'Neil) No. 21 Welder, 160-ac. tract, Sur. 383.
Spudded in.

Santa Clara Oil Co. and H. H. Henderson No. 7-C Welder, 2,310 ft. E line, 1,650 ft. S line, Sur. 381.
Moving in material.

Santa Clara Oil Co. No. 8 Welder, 660 ft S No. 4, survey, W½ SW¼, Sur. 385.
Spudded in.

Santa Clara Oil Co. No. 17 Welder, 660 ft W No. 4, 330 ft. N and E lines, Sur. 383.
Comp.; no gauge; T.D. 2,469 ft.

Santa Clara Oil Co. and H. H. Henderson No. 8-C Welder, 2,310 ft. S and E lines, Sur. 381.
Comp.; no gauge; T.D. 2,420 ft.

Pearsall—Frio County

T. Davis No. 1 Halff & Oppenheimer, 329-ac. tract, J. D. Clare Sur. 366½.
Sand 4,022-33 ft.; drlg. plugs.

Amerada Pet. Co. No. 5 Halff & Oppenheimer, 930 ft. N No. 1 Michail, Simon Glenn Sur. No. 335.
Drlg. 5,010 ft.

Amerada Pet. Co. No. 6 Halff & Oppenheimer, S. A. Ditch Co. Sur. No. 1,103.
Drlg. 4,233 ft.

Gillette—Goliad County

Jane Oil Co. No. 2 Gillette, 990 ft. SW line, 330 ft. NW line tract, Gomez Sur.
Location.

Mercedes—Hidalgo County

Union Sulphur Co. No. 7 American Rio Grande L. & I. Co., 4,000 ft. SE of No. 1, Farm tract 2309, Blk. 59.
Coring 7,433 ft.

Union Sulphur Co. No. 8 American Rio Grande L. & I. Co., 660 ft. N & E lines, Tract 2,120, Blk. 37.
Drlg. sticky shale 3,626 ft.

Samfordyce—Hidalgo County

J. H. Anderson's No. 1 Guerra, 333 ft. N line, 285 ft. W line, Tract 254, Por. 39
Drlg. shale 2,193 ft.

J. T. Barlow No. 1 Marta Flores de Chapa, 230 ft. W line, 692 ft. S line, Tract 250, Porc. 39.
T.D. 690 ft.; S.D. for repairs.

Ralph E. Fair No. 2-B Seabury, 230 ft. S and W lines, tract, Tract 256, Por. 38.
Moving in material.

Harrison-Davis-Bishop's No. 9 Guerra, 33 ft. N and W lines, 40-ac. tract, Tract 12 Por. 41.
Drlg. 2,226 ft.

Navarro Oil Co. No. 2 Guerra, 230 ft. S & W lines, lease, Tract 12, Porcion 41
Sand 2,761-68 ft.; set csg. 2,770 ft.; drlg. plugs.

Ernest Powell No. 3 Luis George, Tract 13, Porc. 41.
Set surface csg. 202 ft.; W.O.C.

San Diego—Jim Wells County

Houston Oil Co. No. 1 Hawkins & Wallace, 990 ft. S and E lines, Blk. 11.
Coring 4,311 ft.

N. Pettus—Karnes County

Magnolia Pet. Co. No. 12 Porter, 660 ft. N. No. 7, 660 ft. W No. 11, Martinez Sur.
Comp.; 105 bbls. per day on ¼-in. choke; T.D. 3,666 ft.

Dinero—Live Oak County

Houston Oil Co. No. 33 Cartwright, 1,172 ft. N No. 21, Francis Botello grant.
Rigging up.

Lucas—Live Oak County

Houston Oil Co. No. 33 Cartwright, 1,172 ft. N of No. 21, R. R. Botallio grant.
Drlg. 2,909 ft.

Calliham—McMullen County

Chas. Hall No. 2 Claunch, 400 ft. SE No. 1, Hely Sur.
Moving in material.

Luray Oil Co No. 8 Glass, 400 ft. S No. 7, 475 ft. NE No. 1, J. Gardner Sur.
P.B. to 699-720 ft.; W.O.C.

Luray Oil Co. No. 9 Glass, 160 ft. S Frio River, 520 ft. E line, Blk. 14, Hely Sur.
Location.

I. W. Taylor No. 1 Lark, 150 ft. S. NW cor. Blk. 56, Scrugham Sur. 973
Sand 969-77 ft.; T.D. 980 ft.; standing with 800 ft. oil in hole.

Jacob—McMullen County

Loma Oil Co. No. 1-F Jacob, 330 ft. W No. 1-B Lark.
Drlg. 800 ft.

National Pet. Co. No. 1-C Lark, Blk. 128, Scrugham Sur.
Spudded in.

National Pet. Co. No. 2-C Lark, 150 ft. N and E lines, Blk. 128, Scrugham Sur.
Derrick.

National Pet. Co. No. 4 Lark, Blk. 128, Scrugham Sur.
Sand 976-1,011 ft.; running liner.

Baldwin—Nueces County

Magnolia Pet. Co. No. 3 Baldwin, 660 ft. S of No. 1 Baldwin.
Sand 3,875-79 ft.; R.U. to pump.

Saxet Heights—Nueces County

Circle Oil Co. No. 1 Whelan, 330 ft. S and E lines tract, Villareal Sur.
Set surface csg. 500 ft.; W.O.C.

Conroe Drlg. Co. No. 1 Hatch, 330, ft. N and E lines, 4-ac. tract, McBride Partition.
Derrick.

J. K. Culton No. 3 Baldwin, Blk. 30, Villareal Grant.
Sand 4,080-89 ft.; testing.

J. K. Culton No. 4 Whelan, 330 ft. N and E lines, tract, Villareal Sur.
Drlg. 3,114 ft.

Garland Clymore No. 1 Weil, 330 ft. NW and NE lines, 80-ac. tract.
T.D. 4,299 ft.; testing.

Tom Graham No. 1 City of Corpus Christi, cen. 5-ac. tract, Villareal Sur.
Location.

Tom Graham No. 1 Whelan, 330 ft. N and E lines, 40-ac. tract, Villareal Sur.
Drlg. 2,159 ft.

D. P. Hawn No. 1 William Shely, 9-ac. tract, Oak Park Addn.
Drlg. 1,817 ft.

Heep Oil Corp. No. 2 Robinson, 660 ft. S No. 1, Villareal Sur.
Sand 4,092-98 ft.; set csg.; W.O.C.

Marine Oil Corp. No. 1 Lynch, 330 ft. S line, midway E and W lines, tract, Villareal Survey.
Sand 4,075-93 ft.; comp.; no gauge.

Maryland O. & G. Co. No. 1 Winship, C Lot 3.
Derrick.

W. D. Moore No. 1 Lackey, 250 ft. SW line, midway SE and NW lines, tract, Villareal Sur.
Drlg. 2,756 ft.

Hiram Reed No. 1 Scheffield & Hutchins, center 2-ac. tract.
Set surface csg. 500 ft.; W.O.C.

Republic Nat. Gas Co. No. 2 Baldwin, 81.6-ac. tract, Blk. 20, Villareal Sur.
Comp.; no gauge; T.D. 4,085 ft.

Republican Natural Gas Co. No. 3 Baldwin, 81.6-ac. tract, Blk. 20, Villareal Sur.
Coring 4,047 ft.

Republic Natural Gas Co. No. 4 Baldwin, 330 ft. E line, 850 ft. S line, Blk. 19.
Skidding on.

Southern Minerals Corp. No. 3 Chas. Kaler, Villareal Survey.
Derrick.

Southern Minerals Corp. No. 2 Smith, 660 ft. E Graham's No. 1 Fiato.
Rigging up.

W. F. Stone No. 1 Smith, cen. Lot 4, Ellisdale Gardens, No. 2 Villareal Survey.
Set csg. 4,078 ft.; W.O.C.

Taylor Ref. Co. No. 1 G. Dunn, Villareal Sur.
Location.

W. A. R. Oil Co. No. 1 Edwards, 660 ft. N No. 1 Baldwin, Villareal Survey.
Comp.; 40 bbls. per hr. on ¼-in. choke; T.D. 4,090 ft.

Westgate Oil Co. No. 1 Geistman, 20-ac. tract, Villareal Survey.
Derrick.

Westgate Oil Co. No. 1 Lynch, 150 ft. N line, midway E and W lines, 8.3-ac. lease, Villareal Survey.
Sand 4,073-84 ft.; running tubing.

Saxet—Nueces County

Benson & Cargray No. 1 Bertha Buckholt, cen. 9-ac. tract, C. Land Sur. No. 404.
Set csg. 1,000 ft.; W.O.C.

Clarkewood Oil Co. No. 1 Isensee, C Blk. 6, Clarkewood Townsite.
Sand 3,983-94 ft.; set csg.; W.O.C.

Conservative Oil Co.'s No. 2 K. Hutchins, 330 ft. S line, 430 ft. W line, Blk. 29.
Shut down 4,292 ft.

A. C. Erwin No. 1 Isensee, Blk. 6, Clarkwood Townsite.
Drlg. shale 2,250 ft.

Houston Oil Co. No. 8 Morgan, 330 ft. N line, 967 ft. W line, 494.8-ac. tract, Sec. 7.
Sand 4,856-67 ft.; completing.

Houston Oil Co. No. 3 Hunter, 330 ft. S and W lines, 159.87-ac. tract, Sur. 586.
Drlg. 1,183 ft.

Magnolia Pet. Co. No. 2 Sanders, 330 ft. SW cor. 110-ac. tract, Sec. 165, B.S.&F. Sur.
Derrick.

Renwar Oil Co. No. 1 Winship, Blk. 3, Clarkewood Townsite, C. Land Sur.
Set csg. 1,000 ft.; W.O.C.

W. A. Richardson No. 1 Smith, C Blk. 4, Clarkwood townsite.
Rigging up.

Shell Pet. Corp. No. 2 Fiato, 355 ft. N line, 330 ft. E line, Blk. 3.
Moving in rig.

L. L. Smith No. 2 Walton, section 6, Kinney Survey.
Location.

Southern Minerals Corp. No. 1 Isensee, 660 ft. W No. 4-A Isensee, C. Land Sur.
Set surface csg. 100 ft.; W.O.C.

Southern Mineral Corp. No. 2 Smith, Blk. 4, Sheppard Farm Lots.
Set csg. 1,013 ft.; W.O.C.

Texon Royalty Co. No. 1 T. H. Isensee, sec. 404.
Rigging up.

Texon Royalty Co. No. 2 Kocurek, lease 156.83-ac. tract, J. R. Ward Survey No. 316.
Moving in material.

Texon Royalty Co. No. 3 Kocurek, 330 ft. N and W lines, tract, Ward Sur. 314. Drlg. 300 ft.

Plymouth—San Patricio County

Plymouth Oil Co. No. 31-C Welder, 7,077 ft. S line, 1,091 ft. E line, sec. 71. Set csg. 5,638 ft.; W.O.C.

Plymouth Oil Co. No. 32-C Welder, 1,393 ft. S line, 3,491 ft. W line, Sec. 49. Set csg. 5,488 ft.; W.O.C.

Plymouth Oil Co. No. 33 C. Welder, 7,923 ft. S line, 710.5 ft. E line, sec. 71. Drlg. shale 3,440 ft.

Plymouth Oil Co. No. 34-C Welder, 2,525 ft. N line, 1,116 ft. E line, sec. 49. Drlg. 350 ft.

Plymouth Oil Co. No. 35-C Welder, 457.5 ft. S line, 2,702.9 ft. E line, sec. 71. Derrick.

Sun Oil Co. No. 2 Edgar, 330 ft. S and W lines, Blk. 1, sec. 34. Drlg. 6,577 ft.

Sun Oil Co. No. 6 Hunt, 1,320 ft. S of No. 3, 466 ft. E line, sec. 34. Location.

Taft Field—San Patricio County

Heep Oil Corp No. 1 Dentler, 330 ft. N and W lines, Lot 8, sec. 5, Second Addn. Farm Lands Subd. Location.

Humble O. & R. Co. No. 1 Godwin, 330 ft. S line, 330 ft. W line, sec. 22, Taft Farm Lands, 3rd Addn. Prep to test 5,778-83 ft.

Humble O. & R. Co. No. 1 Mayo, 330 ft. S and E lines, lease, Wm. Burns Sur. Derrick.

L. L. Smith No. 1 Thompson, 330 ft. N and W lines, Lot 5, sec. 6, Second Addn., Farm Lands Subd. Location.

Samfordyce—Starr County

Phillips and Barnsdall No. 6 Yturria Land & Cattle Co., 110-ac. lease, E½, Por. 100. Sand 2,823-32 ft.; set csg.; W.O.C.

Carolina-Texas—Webb County

Foster Barnaby No. 5 Webster, Sur. 684. T.D. 2,930 ft.; W.O. wtr.

Holland Reavis No. 1 Webster, 150 ft. S and W lines, NW¼, NE¼, Sur. 684. Drlg. 5,357 ft.

Cole—Webb County

Cole Petroleum Co. No. 16 Benavides, Blk. 16, Sur. 16. Drlg. 2,027 ft.

Cole Pet. Co. No. 93 Benavides, Block 10, Sur. 7. T.D. 2,411 ft.; P.B. to 2,400 ft.; W.O.C.

Cole Pet. Co. No. 94 Rosa Benavides, 330 ft. NW and SW lines, Blk. 2, Sur. 13. Location.

Lopez—Webb County

Ivan Howard No. 1 Lopez, 330 ft. S and W lines, Sur. 2,350 ft. Drlg. 2,305 ft.

Hunter Co. No. 1 Billings, S½, NE¼, Survey 113. Rigging up.

Hunter Oil Co. No. 2 Billings, 320 ft. N and E lines, S½ NE¼, Sur. 113. Sand 2,138-49 ft.; set csg.; W.O.C.

Mills Bennett Prod. Co. No. 5 Maria Lopez, 1,650 ft. E line, 330 ft. S line, Sur. 112. Comp. 18 bbls. per hr.; sand 2,218-28 ft.

Mills Bennett Prod. Co. No. 6 Maria Lopez, 2,310 ft. E line, 330 ft. S line, Sur. 112. Set csg. 2,226 ft.; W.O.C.

Mills Bennett Prod. Co. No. 3 Montemayor, 2,310 ft. W line, 2,042 ft. N line, Sur. 114. Drlg. 1,832 ft.

Mills Bennett Prod. Co. No. 1 A. Lopez, SW cor. tract, Share 13, Tract 111. Location.

Montour Prod. Co. No. 4 Coffey, 330 ft. N and E lines tract, Sur. 112. Comp.; 20 bbls. per hr. on ¼-in. choke; sand 2,197-2,222 ft.

G. G. Mortimer No. 2 Maria Lopez, 330 ft. N and E lines lease, Sur. 112. Comp.; 25 bbls. per hr.; sand 2,216-34 ft.

G. G. Mortimer No. 1 F. L. Garcia, con. 14.27-ac. tract, Sur. 114. Drlg. 60 ft.

G. G. Mortimer No. 5 Maria Lopez, 990 ft. S and E lines, Sur. 112. Drlg. 2,204 ft.

G. G. Mortimer No. 6 Maria Lopez, 330 ft. E line, 990 ft. S line, Sur. 112. Location.

G. G. Mortimer No. 9 M. Lopez, 1,650 ft. W line, 611 ft. S line, Sur. 73. Comp.; 15 bbls. per hr. on ¼-in. choke.

Superior Oil Co. No. 1 A. S. Billings, 330 ft. S and E lines, Sur. 7. Sand 2,392-2,410 ft.; oil and S.W.; P.B. to 2,330 ft.; T.D. 2,417 ft.; dry and abd.

Superior Oil Co. No. 5 Billings, Sur. 109. Drlg. 2,211 ft.

O'Hern—Webb County

O. W. Killam No. 45 Bruni, Sur. 453. Drlg. 2,845 ft.

O. W. Killam No. 46 Bruni, 330 ft. N and W lines, Sur. 455. Rigging up.

Magnolia Pet. Co. No. 32 Brennan-Benavides, C Blk. 397, Hale Subd., Arispe grant. Comp.; 15 bbls. per hr. on 5/16-in. choke; T.D. 2,784 ft.

Magnolia Pet. Co. No. 33 Brennan Benavides, cen. Blk. 352. Location.

Magnolia Pet. Co. No. 3 J. Benavides, cen. Blk. 8. Rigging up.

Magnolia Pet. Co. No. 4-B S. Benavides, C Blk. 357. Sand 2,792-2,800 ft.; comp.; 7 bbls. per hr. on ¼-in. choke; T.D. 2,814 ft.

Tex.-La. Oil Co. No. 3 B. Benavides, 247 ft. NW line, 313 ft. SW line, Blk. 320. Location.

Rios Uribe—Zapata County

O. W. Killam No. 6 Bruni, 4,509 ft. NE line, 7,297 ft. SE line, Tract B-7, Borrego grant. Spudded in.

Escobas—Zapata County

S. R. C. Oil Corp.'s No. 16-A Trevino, 2,640 ft. E line, 330 ft. S line, Sur. 66. Location.

Texas Co. No. 83 Whitehead, 25,567 ft. SW line, 10,061 ft. SE line, Cerrito Blanco grant. Running csg.; T.D. 1,236 ft.

Haynes—Zapata County

L. C. Muckelroy No. 1 Haynes, Blk. 5, Comitas & Villa grants. Sand 791-94 ft.; T.D. 805 ft.; testing.

South Texas Oil Co. No. 1 Fee, 330 ft. N and W lines, Blk. 21, Sur. 768. T.D. 1,742 ft.; running csg.

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
General Petroleum, No. 15 Capitan, Santa Barbara Co.	5- 4-30	2,421	pump. 55 b.d.
General Petroleum, No. 16 Capitan, Santa Barbara Co.	5- 4-30	....	rig; suspended
Shell Oil Co., No. 11 Capitan, Santa Barbara Co.	32- 5-30	....	bldg. rig
Shell Oil Co., No. 12 Capitan, Santa Barbara Co.	32- 5-30	....	location
Shell Oil Co., No. 13 Capitan, Santa Barbara Co.	32- 5-30	....	location
Williams & Brown, No. 1 Capitan, Santa Barbara Co.	34- 5-31	....	rig; suspended
Honolulu Oil Corp., No. 9 Elwood, Santa Barbara Co.	tideland	5,787	rd. sh. drlg.
Barnsdall-Rio Grande, No. 12 Elwood, Santa Barbara	15- 4-29	7,282	sd. sh. drlg.
Barnsdall-Rio Grande, No. 16 Elwood, Santa Barbara	15- 4-29	3,381	will deepen
Barnsdall-Rio Grande, No. 33-7 Elwood, Santa Barbara	tideland	3,619	flow, 1,016 b.d.
Barnsdall-Rio Grande, No. 2 Elwood, Santa Barbara	15- 4-29	6,492	suspended
Bankline Oil Co., No. 7 Elwood, Santa Barbara Co.	tideland	3,434	redrlg. 3,220
Bankline Oil Co., No. 10 Elwood, Santa Barbara Co.	tideland	4,749	suspended
Signal Oil Co., No. 7 Elwood, Santa Barbara Co.	tideland	1,565	sd. sh. drlg.
Spalding, Caroline, No. 7 Elwood, Santa Barbara Co.	tideland	3,618	cleaning out
Spalding, Caroline, No. 12 Elwood, Santa Barbara Co.	tideland	....	rig; suspended
Spalding, Caroline, No. 13 Elwood, Santa Barbara Co.	tideland	....	bldg. rig
Bolsa Chica Oil, No. 1 Coal Oil Point, Santa Barbara	tideland	5,510	repair, rig
Fairview Oil Co., No. 1 Purisima, Santa Barbara Co.	18- 7-24	4,060	suspended
Mar Monte Oil Co., No. 1 Summerland, Santa Barbara	16- 4-26	1,604	suspended
Santa Barbara Oil, No. 1 Carpinteria, Santa Barbara	29- 4-25	2,141	suspended
Carnero & Dietzman, No. 1 Carpinteria, Santa Barbara	8- 4-25	350	suspended
Union Oil Co., No. 1 Sudden, Santa Barbara Co.	Not sur.	....	rig; suspended
Calco Pet. Co., No. 1 Las Posas, Ventura Co.	17- 2-20	1,533	sd. sh. drlg.
Union Oil Co., No. 1 Bardsdale, Ventura Co.	12- 3-20	5,758	pump 100 b.d.
Monticello Oil Co., No. 1 Bardsdale, Ventura Co.	12- 3-20	4,011	fish, tub
Duke Oil Co., No. 1 Bardsdale, Ventura Co.	7- 3-19	1,998	cmtd. 1,925
Supreme Oil Co., No. 1 Sespe, Ventura Co.	1- 4-20	880	suspended
Bankline Oil Co., No. 1 Sespe, Ventura Co.	36- 5-20	1,880	rd. sh. drlg.
Speik Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	....	bldg. rig
Nelson & Co., No. 1 Sespe, Ventura Co.	28- 4-19	1,632	rd. sd. drlg.
Laing & Jacobs, No. 1 Shiells Canyon, Ventura Co.	33- 4-19	1,236	gr. sd. drlg.
El Rancho Oil Co., No. 1 Shiells Canyon, Ventura Co.	9- 3-19	1,486	sd. sh. drlg.
Bestco Pet. Co., No. 1 Shiells Canyon, Ventura Co.	2- 3-19	....	rigging up
Bankline Oil Co., No. 2 Shiells Canyon, Ventura Co.	3- 3-19	3,674	cmtd. 3,638
The Texas Co., No. 129 Shiells Canyon, Ventura Co.	4- 3-19	2,591	sd. sh. drlg.
Hull, James, No. 1 Santa Susana, Ventura Co.	2- 2-18	1,500	suspended
Paloma Oil Co., No. 1 Santa Susana, Ventura Co.	12- 2-18	2,851	suspended
Bolsa Chica Oil Co., No. 3 Temescal, Ventura Co.	4- 4-18	532	sd. sh. drlg.
Torrey-Ventura Oil Co., No. 1 Temescal, Ventura Co.	32- 4-18	4,929	cleaning out
Dawson Oil Co., No. 1 Simi, Ventura Co.	5- 2-17	2,350	sd. sh. drlg.
Stolle, E. F., No. 1 Simi, Ventura Co.	6- 2-17	820	hd. sd. drlg.
Ventura Expl. Co., No. 1 Saticoy, Ventura Co.	36- 3-22	7,073	P.B. 6,435
Prop. Service Corp., No. 1 Lloyd, Ventura Co.	24- 3-23	7,119	comp. 26 b.d.
General Pet. Corp., No. 2 Oxnard, Ventura Co.	24- 2-22	....	rigging up
Honolulu Oil Corp., No. 3 Rincon, Ventura Co.	tideland	2,986	prod. test
Continental Oil Co., No. 2 Ojai, Ventura Co.	12- 4-23	1,031	redrlg. 984
Continental Oil Co., No. 5 San Miguelito, Ventura Co.	15- 3-24	5,501	cmtd. 5,415
Continental Oil Co., No. 6 San Miguelito, Ventura Co.	24- 3-24	....	bldg. rig
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	5,961	sd. sh. drlg.
Cumberland Oil Co., No. 1 Devil's Den, Kern Co.	17-26-18	4,461	br. sh. drlg.
Belmac Drlg. Co., No. 1 McKittrick, Kern Co.	22-29-21	4,797	fish, D.P.
Belmac Drlg. Co., No. 2 McKittrick, Kern Co.	21-29-21	498	suspended
Berman, H. L., No. 1 McKittrick, Kern Co.	30-30-22	671	dry; abd.
Chappins, L. C., No. 1 McKittrick, Kern Co.	34-30-22	....	bldg. rig
General Pet. Co., No. 1 South Belridge, Kern Co.	30-28-21	11,377	suspended
Standard Oil Co., No. 4 North Belridge, Kern Co.	36-27-20	761	sd. sh. drlg.
Belridge Oil Co., No. 48-35 North Belridge, Kern Co.	35-27-20	4,658	suspended
Belridge Oil Co., No. 18-35 North Belridge, Kern Co.	35-27-20	5,333	O.S. drlg.
Belridge Oil Co., No. 6-1 North Belridge, Kern Co.	1-28-28	5,356	cmtd. 5,353
Belridge Oil Co., No. 17-35 North Belridge, Kern Co.	35-27-20	....	bldg. rig
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	9,402	sd. sh. drlg.
Union Oil Co., No. 21 North Belridge, Kern Co.	36-27-20	....	rigged up
Continental Oil Co., No. 7 North Belridge, Kern Co.	36-27-20	2,157	sd. sh. drlg.
Beck, Albert, No. 1 North Belridge, Kern Co.	35-28-20	1,661	gr. sd. drlg.
Standard Oil Co., No. 1 Delano, Kern Co.	1-25-23	2,455	gas; shut in
Standard Oil Co., No. 2 Delano, Kern Co.	1-25-23	3,256	gas; shut in
Standard Oil Co., No. 4 Delano, Kern Co.	34-24-23	3,460	gas; shut in
Standard Oil Co., No. 5 Delano, Tulare Co.	33-24-23	2,466	gas; shut in
Standard Oil Co., No. 6 Delano, Kern Co.	1-25-23	4,130	5,500 m.c.f.
Standard Oil Co., No. 7 Delano, Kern Co.	34-24-23	1,262	sd. sh. drlg.
Trico Oil & Gas Co., No. 1 Delano, Kern Co.	8-25-23	2,525	gas; shut in
Trico Oil & Gas Co., No. 5 Delano, Kern Co.	8-25-23	2,467	gas; shut in
Richardson & Heaston, No. 1 Kern Front, Kern Co.	5-28-28	3,100	suspended
C. C. M. Oil Co., No. 13 Kern Front, Kern Co.	23-28-27	3,150	pump. 145 b.d.
C. C. M. Oil Co., No. 14 Kern Front, Kern Co.	23-28-27	....	bldg. rig
Republic Pet. Co., No. 6 Kern Front, Kern Co.	24-28-27	1,947	cmtd. 1,810
Republic Pet. Co., No. 7 Kern Front, Kern Co.	24-28-27	....	bldg. rig
Kreighs, C. M., No. 1 Kern Front, Kern Co.	4-28-27	2,997	P.B. 2,714
General Pet. Corp., No. 5 Kern Front, Kern Co.	14-28-27	....	rigging up
General Pet. Corp., No. 6 Kern Front, Kern Co.	14-28-27	....	bldg. rig
Webber, T. A., No. 1 Kern Front, Kern Co.	16-28-27	....	rigging up
Standard Oil Co., No. 9 Kern Front, Kern Co.	5-28-27	2,813	completing
Standard Oil Co., No. 10 Kern Front, Kern Co.	5-28-27	....	rigging up
Lloyd Oil Co., No. 1 Kern Front, Kern Co.	3-28-27	....	rig; suspended
Vega Oil Co., No. 1 Kern Front, Kern Co.	11-28-27	1,726	cmtd. 1,656
The Texas Co., No. 4 Kern Front, Kern Co.	23-28-27	2,010	rig to pump
Grace-Kern Oil Co., No. 1 Premier, Kern Co.	26-27-27	2,000	suspended
Ohio Oil Co., No. 10 Premier, Kern Co.	32-27-27	2,740	cleaning out
O. & F. Oil Co., No. 1 Premier, Kern Co.	32-27-27	2,725	suspended
Recovery Oil Co., No. 1 Dominion, Kern Co.	28-26-28	....	rig; suspended
Falcon Oil Co., No. 1 Dominion, Kern Co.	27-26-28	810	rebldg. rig
Brown, S. C., No. 1 Mount Poso, Kern Co.	22-27-27	....	location
Spabeck & Gardner, No. 1 Mount Poso, Kern Co.	31-27-28	1,105	suspended
Bailes, Tom, No. 1 Mount Poso, Kern Co.	11-27-27	....	rig; suspended
Elliott Oil Co., No. 1 Fruitvale, Kern Co.	14-29-27	3,996	P.B. 3,410
Dixie Lee Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	3,386	cmtd. 3,194
The Texas Co., No. 1 Fruitvale, Kern Co.	26-29-27	1,942	sd. sh. drlg.
H. L. J. Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	....	bldg. rig
North American, No. 1 Mountain View, Kern Co.	5-31-29	4,824	sd. sh. drlg.
Gilmore-Snyder, No. 4 Mountain View, Kern Co.	24-30-28	5,232	flow, 245 b.d.
Hancock Oil Co., No. 5 Mountain View, Kern Co.	14-30-28	5,360	redrlg. 5,130
Hogan Pet. Co., No. 3 Mountain View, Kern Co.	32-30-29	6,287	will P.B.
Hogan Pet. Co., No. 9 Mountain View, Kern Co.	5-31-29	4,871	sd. sh. drlg.
Hogan Pet. Co., No. 10 Mountain View, Kern Co.	29-30-29	3,631	sd. sh. drlg.
Buffalo Oil Co., No. 1 Mountain View, Kern Co.	19-30-29	5,161	sd. sh. drlg.
Sheldon Oil Corp., No. 1 Mountain View, Kern Co.	19-30-29	4,966	completing
Wood-Callahan Oil Co., No. 2 Mountain View, Kern Co.	25-30-28	4,998	sd. sh. drlg.
O'Kane & Brain, No. 2 Mountain View, Kern Co.	30-30-29	5,922	flow, 628 b.d.
Mohawk Oil Co., No. 16 Mountain View, Kern Co.	30-30-29	6,035	cmtd. 5,875
Mohawk Oil Co., No. 18 Mountain View, Kern Co.	30-30-29	....	rigging up
Ohio Oil Co., No. 2 Mountain View, Kern Co.	32-30-29	5,120	sd. sh. drlg.
Shell Oil Co., No. 6 Mountain View, Kern Co.	32-30-29	5,780	flow, 540 b.d.
Shell Oil Co., No. 7 Mountain View, Kern Co.	32-30-29	4,492	sd. sh. drlg.
Shell Oil Co., No. 8 Mountain View, Kern Co.	32-30-29	....	rigging up
Standard Oil Co., No. 10 Mountain View, Kern Co.	19-30-29	5,843	redrlg. 5,647
Standard Oil Co., No. 23 Mountain View, Kern Co.	13-30-28	4,989	sd. sh. drlg.
Standard Oil Co., No. 24 Mountain View, Kern Co.	13-30-28	4,823	sd. sh. drlg.
Standard Oil Co., No. 25 Mountain View, Kern Co.	13-30-28	2,960	sd. sh. drlg.
Mountain View Oil Co., No. 1 Mountain View, Kern Co.	25-30-28	5,814	suspended
Jergins Trust, No. 5 Mountain View, Kern Co.	24-30-28	5,960	sanded up
Ohio Oil Co., No. 1 Rio Bravo, Kern Co.	1-30-25	....	rigging up
Shell Oil Co., No. 1 Stevens, Kern Co.	29-30-26	2,574	sd. sh. drlg.
Shell Oil Co., No. 10 Round Mountain, Kern Co.	17-28-29	1,985	completing
H. & L. Oil Co., No. 1 Round Mountain, Kern Co.	2-28-28	975	suspended
California Western Oil, No. 6 Round Mountain, Kern	7-28-29	1,476	sd. sh. drlg.
Barnsdall Oil Co., No. 1 Round Mountain, Kern Co.	7-28-29	1,642	pump 343 b.d.
Barnsdall Oil Co., No. 2 Round Mountain, Kern Co.	7-28-29	1,479	sd. sh. drlg.
Barnsdall Oil Co., No. 3 Round Mountain, Kern Co.	7-28-29	....	bldg. rig
Mountain Pet. Co., No. 1 Round Mountain, Kern Co.	24-28-28	....	rigged up
Honolulu Oil Corp., No. 12 Round Mountain, Kern Co.	18-28-29	....	rigging up
Honolulu Oil Corp., No. 13 Round Mountain, Kern Co.	18-28-29	....	bldg. rig
Berry Oil Co., No. 2 Edison, Kern Co.	10-30-29	1,950	O.S. drlg.
Jergins Trust, No. 18 Edison, Kern Co.	24-30-29	1,525	dry; abd.
Jergins Trust, No. 19 Edison, Kern Co.	24-30-29	1,348	P.B. 1,225
Jergins Trust, No. 20 Edison, Kern Co.	13-30-29	....	bldg. rig
Shell Oil Co., No. 11 Edison, Kern Co.	15-30-29	....	location
Monterey Expl. Co., No. 5 Edison, Kern Co.	14-30-29	....	rigging up
General Pet., No. 13 Edison, Kern Co.	24-30-29	1,576	recmtd. 1,290
General Pet., No. 14 Edison, Kern Co.	24-30-29	....	bldg. rig
General Pet., No. 15 Edison, Kern Co.	11-30-29	....	location
Union Oil Co., No. 3 Edison, Kern Co.	14-30-29	2,488	completing
Union Oil Co., No. 4 Edison, Kern Co.	14-30-29	....	rig; suspended
Union Oil Co., No. 5 Edison, Kern Co.	13-30-29	....	rig; suspended
General Pet. Corp., No. 1 Elk Hills, Kern Co.	5-30-24	5,521	sd. sh. drlg.
Caloren Oil Co., No. 1 Midway, Kern Co.	27-32-22	2,230	suspended
Gibson Oil Co., No. 2 Maricopa, Kern Co.	6-11-23	1,000	sd. sh. drlg.
Hallmark Oil Co., No. 4 Maricopa, Kern Co.	25-12-24	....	rigging up
Pet. Drlg. & Expl. Co., No. 2 Maricopa, Kern Co.	25-12-24	....	rigging up
Evans, H. B., No. 12 Midway, Kern Co.	35-32-23	1,200	sd. sh. drlg.
Superior Oil Co., No. 1 Semi-Tropic, Kern Co.	23-27-23	2,418	gas; shut in
Fullerton Oil Co., No. 1 Semi-Tropic, Kern Co.	1-27-22	2,391	gas; shut in
Fullerton Oil Co., No. 2 Semi-Tropic, Kern Co.	14-27-23	2,463	gas; shut in
Fullerton Oil Co., No. 3 Semi-Tropic, Kern Co.	9-27-23	3,150	gas; shut in
Fullerton Oil Co., No. 4 Semi-Tropic, Kern Co.	26-27-23	2,395	gas; shut in
Fullerton Oil Co., No. 5 Semi-Tropic, Kern Co.	8-27-23	2,347	gas; shut in
Fullerton Oil Co., No. 6 Semi-Tropic, Kern Co.	25-27-23	2,441	gas; shut in
Fullerton Oil Co., No. 7 Semi-Tropic, Kern Co.	25-27-23	2,437	gas; shut in
Fullerton Oil Co., No. 8 Semi-Tropic, Kern Co.	25-27-23	2,429	gas; shut in
Fullerton Oil Co., No. 9 Semi-Tropic, Kern Co.	26-27-23	2,431	gas; shut in
Fullerton Oil Co., No. 10 Semi-Tropic, Kern Co.	15-27-23	2,414	gas; shut in
Standard Oil Co., No. 1 Semi-Tropic, Kern Co.	8-27-23	3,200	gas; shut in
Standard Oil Co., No. 3 Semi-Tropic, Kern Co.	7-27-23	2,855	gas; shut in
Standard Oil Co., No. 6 Semi-Tropic, Kern Co.	8-27-23	2,361	gas; shut in
Standard Oil Co., No. 8 Semi-Tropic, Kern Co.	12-27-22	2,426	gas; shut in
Standard Oil Co., No. 12 Semi-Tropic, Kern Co.	6-27-23	2,408	gas; shut in
Standard Oil Co., No. 15 Semi-Tropic, Kern Co.	16-27-23	3,215	gas; shut in
Standard Oil Co., No. 17 Semi-Tropic, Kern Co.	16-27-23	3,051	gas; shut in
Milham Expl. Co., No. 1 Semi-Tropic, Kern Co.	15-27-23	3,122	gas; shut in
Milham Expl. Co., No. 2 Semi-Tropic, Kern Co.	15-27-23	2,429	gas; shut in
Milham Expl. Co., No. 3 Semi-Tropic, Kern Co.	15-27-23	2,385	gas; shut in
Milham Expl. Co., No. 4 Semi-Tropic, Kern Co.	24-27-23	2,486	gas; shut in
Ohio Oil Co., No. 1 Buena Vista, Kern Co.	31-31-26	5,302	gas; shut in
Ohio Oil Co., No. 4 Buena Vista, Kern Co.	32-31-26	4,221	gas; shut in
Ohio Oil Co., No. 5 Buena Vista, Kern Co.	31-31-26	4,732	sd. sh. drlg.
Silver Gate Oil & Gas Co., No. 1 Tejon, Kern Co.	7-10-19	2,005	recmtd. 1,870
Reserve Oil & Gas Co., No. 5 Tejon, Kern Co.	2-10-19	611	sd. sh. drlg.
Seaboard Oil Co., No. 2 Huron, Fresno Co.	36-16-14	171	sd. sh. drlg.
Conlon, J. M., No. 1 Coalinga, Fresno Co.	30-19-15	165	sd. sh. drlg.
Union Oil Co., No. 1 Lillis-Welsh, Fresno Co.	24-21-16	11,127	P.B. 10,760
K. N. D. A., No. 54 Kettleman North, Fresno Co.	24-21-16	8,730	hd. sd. drlg.
K. N. D. A., No. 58 Kettleman North, Fresno Co.	18-21-17	....	rig; suspended
K. N. D. A., No. 2 Kettleman North, Fresno Co.	20-21-17	....	bldg. rig
Standard Oil Co., No. 2 Kettleman Middle, Kings Co.	29-23-19	7,760	P.B. 7,625
Petroleum Securities, No. 2 Kettleman Middle, Kings	30-23-19	9,332	rigging up
Royalty Service Corp., No. 1 Pyramid Hills, Kings Co.	16-24-19	2,006	P.B. 1,986
Farrel Pet., Well No. 1, San Luis Obispo Co.	14-31-12	1,924	suspended
Birch-Boyer Oil Co., No. 1 Pismo, San Luis Obispo Co.	33-31-13	1,546	sd. sh. drlg.
United Oil Co., Well No. 1, San Luis Obispo Co.	2-32-21	150	suspended
Willett Oil Co., No. 1 Cholame, San Luis Obispo Co.	10-25-15	3,687	cleaning out
Willett, O. L., No. 1 San Luis, San Luis Obispo Co.	27-26-13	....	rig; suspended

Kettleman View Oil Co., Well No. 1, Kings Co.	29-22-19	1,262	suspended
Commonwealth Consd. Gas, No. 1 Tulare Lake, Kings	21-22-20	2,490	gas; shut in
Commonwealth Consd. Gas, No. 2 Tulare Lake, Kings	21-22-20	2,481	sd. sh. drlg.
Union-Hancock, No. 1 Tulare Lake, Kings Co.	28-22-20	2,910	br. sh. drlg.
Amerada Pet., No. 1 Tracy, San Joaquin Co.	15- 2-5	4,070	gas; shut in
Amerada Pet., No. 2 Tracy, San Joaquin Co.	15- 2-5	4,063	producing gas
Amerada Pet., No. 3 Tracy, San Joaquin Co.	22- 2-5	4,060	producing gas
Amerada Pet., No. 5 Tracy, San Joaquin Co.	15- 2-5	4,029	producing gas
Amerada Pet., No. 6 Tracy, San Joaquin Co.	15- 2-5	4,050	10,000 m.c.f.
Amerada Pet., No. 7 Tracy, San Joaquin Co.	15- 2-5	....	location
Pure Oil Co., No. 1 Chowchilla, Madera Co.	7-10-14	3,402	gas; shut in
Pure Oil Co., No. 2 Chowchilla, Madera Co.	8-10-14	2,606	4,000 m.c.f.
Northern Counties Pet., No. 1 Tehama, Tehama Co.	25-24-3	6,454	sd. sh. drlg.
Shell Oil Co., No. 1 Branch, Monterey Co.	34-24-10	7,353	sd. sh. drlg.
Clark, George, No. 1 Ducor, Tulare Co.	31-23-28	1,320	suspended
Kabella Oil Co., No. 2 Ducor, Tulare Co.	12-23-27	890	suspended
Kenwood Pet. Corp., No. 1 Ducor, Tulare Co.	14-24-27	1,098	hd. sd. drlg.
Buttes Oilfields, Well No. 3, Sutter Co.	11-15-1	5,340	suspended
Murrell, T. R., No. 1 Los Banos, Merced Co.	8-10-9	1,343	sd. sh. drlg.
The Texas Co., No. 3 Eureka, Humboldt Co.	22- 3-1	....	bldg. rig

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Republic Pet. Co., No. 2 El Segundo, Los Angeles Co.	18- 3-14	3,520	sd. sh. drlg.
Marvin, J. L., No. 1 El Segundo, Los Angeles Co.	7- 3-14	6,359	rigging up
Sovereign Oil Co., No. 1 El Segundo, Los Angeles Co.	23- 3-14	8,766	cleaning out
Cone Oil Co., No. 1 Lawndale, Los Angeles Co.	20- 3-14	1,450	sd. sh. drlg.
Pan-Tex Oil Co., No. 1 Lawndale, Los Angeles Co.	20- 3-14	6,480	will redrill
Pioneer-Holding Co., No. 1 Moneta, Los Angeles Co.	33- 3-14	4,320	suspended
McDowell, O. B., No. 1 Torrance, Los Angeles Co.	35- 3-14	4,625	suspended
Big Ben Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	....	bldg. rig
White Five Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	151	sd. sh. drlg.
Sterling Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	4,200	cleaning out
Dumas-Lewis Oil Co., No. 1 Redondo, Los Angeles Co.	6- 4-14	3,220	sd. sh. drlg.
H. & N. Oil Co., No. 1 Redondo, Los Angeles Co.	18- 4-14	....	rigging up
Clark, T. R., No. 1 Redondo, Los Angeles Co.	6- 4-14	3,552	suspended
West American Oil Co., No. 1 Dominguez, Los Angeles	3- 4-13	5,521	sd. sh. drlg.
McAdams Expl. Co., No. 1 Palos Verdes, Los Angeles	31- 4-13	4,496	dry; abd.
Shell Oil Co., No. 1 Long Beach, Los Angeles Co.	13- 4-13	5,461	sd. sh. drlg.
Continental Oil Co., No. 38 Seal Beach, Los Angeles	8- 5-12	1,263	sd. sh. drlg.
Engler & Long, No. 1 Artesia, Los Angeles Co.	25- 3-12	5,888	P.B. 5,130
Clayton, C. L., No. 1 Long Beach, Los Angeles Co.	31- 3-12	6,765	suspended
Standard Oil Co., No. 15 Englewood Deep, Los Angeles	8- 2-14	4,020	flow. 2,704 b.d.
Ohio Oil Co., No. 18 Del Rey, Los Angeles Co.	22- 2-15	4,922	sd. sh. drlg.
Eastern Oil Co., No. 1 Del Rey, Los Angeles Co.	22- 2-15	4,255	sd. sh. drlg.
Fourl, C. W., No. 5 Del Rey, Los Angeles Co.	27- 2-15	....	bldg. rig
Anglo American Oil Co., No. 1 Del Rey, Los Angeles	27- 2-15	6,939	C.P. 6,750
Herndon Dev. Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	5,387	sd. sh. drlg.
Union Oil Co., No. 20 Del Rey, Los Angeles Co.	27- 2-15	5,721	sd. sh. drlg.
Union Oil Co., No. 21 Del Rey, Los Angeles Co.	27- 2-15	....	bldg. rig
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co.	1- 3-16	1,442	hd. sh. drlg.
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co.	36- 4-16	....	bldg. rig
Eyer Pet. Co., No. 1 Compton, Los Angeles Co.	20- 4-13	3,100	suspended
Monarch Oil Corp., No. 1 Topanga, Los Angeles Co.	5- 1-16	652	cmtd. 625
Standard Oil Co., No. 79 Montebello, Los Angeles Co.	2- 2-12	4,420	sd. sh. drlg.
Standard Oil Co., No. 80 Montebello, Los Angeles Co.	2- 2-12	3,170	sd. sh. drlg.
Standard Oil Co., No. 81 Montebello, Los Angeles Co.	2- 2-12	2,543	will redrill
Standard Oil Co., No. 82 Montebello, Los Angeles Co.	2- 2-12	5,872	sd. sh. drlg.
Standard Oil Co., No. 83 Montebello, Los Angeles Co.	2- 2-12	....	rigging up
Standard Oil Co., No. 84 Montebello, Los Angeles Co.	2- 2-12	....	rigging up
Butler, C. R., No. 1 Montebello, Los Angeles Co.	14- 2-10	3,375	sd. sh. drlg.
Woodward Oil Co., No. 2 Montebello, Los Angeles Co.	4- 2-11	3,336	suspended
The Texas Co., No. 13 Montebello, Los Angeles Co.	5- 2-11	6,992	completing
Universal Consd., No. 4 Montebello, Los Angeles Co.	5- 2-11	6,600	flow. 100 b.d.
Universal Consd., No. 5 Montebello, Los Angeles Co.	5- 2-11	5,686	form. test
Wilshire Oil Co., No. 1 Montebello, Los Angeles Co.	5- 2-11	6,352	suspended
Richfield Oil Co., No. 1 Montebello, Los Angeles Co.	5- 2-11	....	bldg. rig
North American, No. 1 Montebello, Los Angeles Co.	30- 1-10	5,952	suspended
North American, No. 2 Montebello, Los Angeles Co.	5- 2-11	....	rigging up
Frontier Oil Co., No. 1 Pico, Los Angeles Co.	7- 2-11	5,246	P.B. 4,990
Oil & Gas Associates, No. 1 Pico, Los Angeles Co.	9- 2-11	3,396	hd. sd. drlg.
Fraser, N. M., No. 1 Saugus, Los Angeles Co.	31- 4-16	976	suspended
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co.	36- 5-5	2,211	hd. sd. drlg.
Albert Pet. Co., No. 1 Murrieta, Riverside Co.	23- 7-3	2,786	suspended
Stevens, F. E., No. 1 Corona, Riverside Co.	27- 3-7	....	rigging up
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	863	bl. sh. drlg.
Twentieth Century Oil Co., No. 1 Huntington, Orange	36- 5-11	5,176	sd. sh. drlg.
Leaseholders Dev. Co., No. 1 Atwood, Orange Co.	26- 3-9	4,185	suspended
Standard Oil Co., No. 1 Anaheim, Orange Co.	36- 3-9	2,792	redrlg. 2,549
Continental Oil Co., No. 1 Yorba, Orange Co.	21- 3-9	2,520	sd. sh. drlg.
Equitable Pet. Co., Well No. 1, San Bernardino Co.	11-16-5	2,000	tested wet
Tehama Pet. Co., No. 1 Chino, San Bernardino Co.	33- 2-8	3,060	P.B. 1,460

WEST TEXAS WILDCATS

Week Ending February 17

Andrews County

Humble O. & R. Co. No. 1 H. A. Moore, 660 ft. from S and 1,997 ft. from E, sec. 13, Blk. A-20.
Cellar.

Tippiehorn No. 2 King, sec. 11, Blk. A-46.
Drlg. 1,880 ft.

Borden County

C. E. Hyde No. 1 Miller, sec. 28, Blk. 33, Twp. 4n, T.&P. Sur.
Drlg. 3,530 ft.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur.
Drlg. 110 ft.

C. H. Storey No. 1 Wilson, sec. 3, Blk. 212, T.&St.L. Sur.
Elev. 3,609 ft.; S.D. 1,875 ft.

Concho County

Maverick Oil Co. No. 1 Jim Rice, sec. 13, S.N. Ry. Sur.
T.D. 1,597 ft.; cleaning out.

John W. Westbrook No. 1 Ledbetter, sec. 2, Sur. 1,673.
S.D. 2,026 ft.; set casing.

Crane County

Clark et al No. 1 A. P. Jordan, sec. 12, Blk. B-22, P.S.L. Sur.
Location.

Eppenauer Drlg. Co. No. 1 fee, sec. 13, Blk. 5, H.&T.C. Sur., 7,500-ft. test.
Location.

Flaherty No. 1 E. Hughes, sec. 4, G.C.&S.F. Sur.
T.D. 2,076 ft.; P.B. 2,074 ft.; pumped 45 bbls. oil and 69 bbls. water.

Gulf Prod. Co. No. 1 Waddell, Blk. B-27, P.S.L. Sur.
T.D. 6,450 ft.; P.B. to 6,317 ft.; pumping 78 bbls. day, gr. 34.7.

Humble O. & R. Co. No. 1 J. H. Tubb, sec. 11, Blk. B-27, P.S.L. Sur.
Drlg. 2,862 ft.

Keyes et al No. 1 Ed S. Hughes, sec. 93, Blk. X, Julia Prater Sur.
Drlg. 1,000 ft.

Moore Bros. No. 1 Barnsley, 1,320 ft. from S and W, sec. 43, Blk. 32, P.S.L. Sur.
Material

Sinclair Prairie Oil Co. et al No. 1 Tubbs, 330 ft. from S and E, sec. 3, Blk. B-27, community test.
S.D. 3,057 ft.; to test.

Crockett County

J. G. Harris No. 1 Parker, sec. 83, Blk. 1, I.&G.N. Sur.
S.D. 1,775 ft.

John I. Moore No. 1 A. C. Hoover, sec. 4, Blk. FF, B.&B. Sur.
Spudded and S.D.

Culberson County

Anderson-Prichard Oil Corp., Magnolia Pet. Co. et al No. 1 Borders, sec. 34, Blk. 69, P.S.L. Sur.
Drlg. 4,859 ft.

Dawson County

Adams & Turner No. 1 John Robinson, sec. 46, Blk. M, E.L.R.R. Sur.
T.D. 4,562 ft.; underreaming casing.

Ector County

Barnsdall Oil Co. et al No. 2 Foster, sec. 18, Blk. 42, Twp. 2s, T.&P. Sur.
T.D. 1,964 ft.; set casing.

W. P. Dunning, Jr. et al No. 1 Mrs. Clarence Scharbauer, sec. 33, Blk. 44, Twp. 1n, T.&P. Sur.
Drlg. 4,075 ft.

Stanolind O. & G. Co. No. 1 J. E. Witcher, sec. 24, Blk. 43, Twp. 2s, T.&P. Sur.
T.D. 4,700 ft.; set casing.

Edwards County

Paul Teas No. 1 J. E. Stewart, sec. 2, Blk. DA, G.C.&S.F. Sur.
Drlg. 750 ft.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless, 1,700 ft. S and 3,070 ft. W of SW cor. of sec. 60, H.T.&B. Sur., but in Sub. 1, G. W. Lawrence Sur., 6 miles E of Roby.
S.D. 685 ft.

Forest Dev. Co. No. 1 A. M. Dry, 640 ft. from S and 2,000 ft. from E, sec. 103, Blk. 2, H.&T.C. Sur.
Drlg. 1,372 ft.

Gaines County

Wahlenmaier Pet. Co. et al No. 1 E. H. Jones, sec. 414, Blk. G, C.C.S.D.&R.G.N.G. Sur., 23 miles NW Seminole.
Top gray lime 4,980 ft.; drlg. 5,087 ft.

W. T. Walsh et al No. 1 Averitt, sec. 228, Blk. G, W.T.R.R. Sur.
Elev. 3,322 ft.; gas show 2,785 ft.; increase 2,795 ft.; increase gas 3,133 ft.; est. 15,000,000 ft. of gas; drlg. 3,945 ft.; more gas.

Garza County

M. L. Richards No. 1 Post Estate, sec. 6, Blk. 5, K. Aycock Sur.
Drlg. 2,353 ft.

Glasscock County

John I. Moore et al No. 1 J. S. McDowell, sec. 22, Blk. 34, Twp. 2s, T.&P. Sur.
Topped lime 9,471 ft.; show oil and gas 9,484-9,520 ft.; increase oil 9,594-9,600 ft. and 9,633-55 ft.; drlg. 10,792 ft.

Hudspeth County

Haymon Krupp Oil & Land Co. No. 1 Thaxton, sec. 34, Blk. 74, Twp. 6, T.&P. Sur.
No information below 600 ft.

Jeff Davis County

C. M. Joiner No. 1 Jones & Coffield, sec. 8, Blk. 3, H.&T.C. Sur.
Drlg. 2,286 ft.

Jones County

Herring et al No. 1 Cowsart, sec. 42, O.A.L. Sur.
Drlg. 2,175 ft.

Hughes No. 1 Bumpass, T. Maltby Sur. No. 252.
Drlg. 2,000 ft.

Bob Elmore No. 1 Coton, sec. 10, D.D.&A. lands, 3 miles W of Avoca.
Drlg. 1,429 ft.

Humphrey's No. 1 A. A. McDuff, 200 ft. from S and 710 ft. from E, sec. 1, Blk. 15, T.&P. Sur.
Machine.

Shaheen et al No. 1 J. J. Steele, sec. 11, Blk. 15, T.&P. Sur.
T.D. 1,296 ft.; starting up.

Shaheen et al No. 1 T. B. McCoy, sec. 1, Blk. 16, T.&P. Sur.
Drlg. 220 ft.

Martin County

Woodley Pet. Co. No. 1 M. S. King, sec. 30, Blk. 35, Twp. 3s, T.&P. Sur.
S.D. 150 ft.; rigging up rotary.

Menard County

Wilcox O. & G. Co. No. 1 Merchenson, sec. 158, E.L.R.R. Sur., Abst. 1,840, 8 miles S of Menard.
T.D. 491 ft.; set casing.

Pecos County

Ajax Drlg. Co. No. 1 University, sec. 13, Blk. 18.
T.D. 1,765 ft.; P.B. to 1,719 ft.; acidized twice; to shoot.

Cardinal Oil Co. No. 1-44 White & Baker, sec. 44, Blk. Z, T.C. Ry. Sur.
Drlg. 1,775 ft.; 15,000,000 ft. gas at 1,705-17 ft.

Clark et al No. 1 McKenzie, sec. 9, Blk. 604.
T.D. 1,654 ft.; acidized.

Tex-Mex Pet. Co. No. 1 Phillips-Brandenburg, sec. 42, Blk. 8, H.&G.N. Sur.
T.D. 2,325 ft.; testing.

Tex-Mex Pet. Co. No. 1 Lowry, sec. 80, Blk. 8, H.&G.N. Sur.
Drlg. 2,108 ft.

Trans-Pecos Oil Co. No. 1 F. W. Popham, sec. 235, Blk. 11, G.H.&S.A. Sur.
Drlg. 125 ft.

Trans-Tex. Oil Co. No. 1 Caldwell, sec. 27, Blk. 40, Twp. 9, T.&P. Sur.
S.O. 3,905-4,000 ft.; 1 bailer oil in 48 hrs.; drlg. 5,200 ft.

Presidio County

J. F. Sadler No. 1 J. R. Bledsoe, sec. 15, Blk. 354; G.C.&S.F. Sur., 2½ miles N of Presidio.
Elev. 2,732 ft.; drlg. 1,120 ft.

Schleicher County

Cardinal Oil Co. et al No. 1 J. A. Whitten, sec. 35, Blk. LL, T.C. Ry. Sur.
T.D. 696 ft.; underreaming.

Cecil Rains et al No. 1 Judkins & Spencer, C SW¼ sec. 4, Blk. V-28.
Elev. 2,209 ft.; S.D. 4,157 ft.

Scurry County

Bristow & Cantrill No. 1 Shannon, Est., sec. 331, Blk. 97, H.&T.C. Sur.
S.D. 585 ft.; rerunning pipe.

Coffield & Guthrie No. 1 Wade, 990 ft. from N and 330 ft. from W, sec. 115, Blk. 97, H.&T.C. Sur.
T.D. 3,168 ft.; P.B. to 1,900 ft.

G. W. Guthrie No. 1 Sorrells, sec. 101, Blk. 97, H.&T.C. Sur.
Material.

Taylor County

Rightower O. & R. Co. No. 1 E. E. Sadler, in C. Cole Sur., 2 miles W of Wiley.
Drlg. 2,455 ft.

Tom Green County

Mays Oil Co. No. 1 I. Funk, sec. 38, Blk. 5, H.&T.C. Sur.
S.D. 1,452 ft.; P.B. to 1,035 ft.; casing trouble.

Upton County

Cordova Union No. 1 fee, 672 ft. S of I.T.I.O. No. 1 Cordova Union, sec. 3, Blk. A.B.
T.D. 2,176 ft.; cleaning out; 1,800 ft. of oil in hole; testing.

John Emch and Shell Pet. Corp. No. 1 Gordon, sec. 47, Blk. Y, T.C. Ry. Sur.
Elev. 2,677 ft.; drlg. 1,350 ft.

Greencliff Oil Corp. et al No. 1 J. H. Tippett, C NE¼ sec. 58, Blk. Y, T.C. Sur.
Drlg. 1,602 ft.

I.T.I.O. and Foster No. 1 Cordova Union, 624 ft. W of Ray No. 1 Cordova Union, sec. 3, Blk. AB, A. E. Baxley Sur.
T.D. 2,135 ft.; P.B. 2,114 ft.; testing.

J. G. McKenzie No. 1 Taylor, sec. 22, Blk. B-2, G.H.&S.F. Sur.
T.D. 630 ft.

O. F. M. No. 1 King Ranch, sec. 22, Blk. 35, H.&T.C. Sur.
Drlg. 110 ft.

Ward County

Abell Brothers' No. 1 Lancaster Estate, sec. 61, Blk. 3, H.&G.N. Sur. in Pecos County, 5¼ miles down Pecos River from NW cor. of Pecos and E cor. of Reeves County.
T.D. 1,072 ft.; underreaming.

Lindsay & Bolin No. 1 Thomas, 330 ft. from SW and SE, sec. 31, Blk. 34, H.&T.C. Sur.
Rigged up rotary.

Olsen & Anderson No. 1 Yell, W. F. Stewart Sur., sec. 6.
T.D. 2,600 ft.; P.B. to 2,455 ft.; water shut off.

C. Cothran No. 1 Greene, sec. 29, Blk. B-29, P.S.L. Sur.
Drlg. 2,325 ft.

Dobbs Oil Co. No. 1 A. F. Bray.
T.D. 2,563 ft.; T.P. 2,551 ft.; testing.

Winkler County

Amerada Pet. Corp. No. 1 Daugherty, sec. 35, Blk. 74, P.S.L. Sur.
T.D. 2,948 ft.; cleaning out to shoot.

Cherry et al No. 1 Central State Bank of Abilene, sec. 25, Blk. 26, P.S.L. Sur.
Drlg. 1,268 ft.

Crafton Oil Co. No. 2 Pure-Walton, sec. 1, Blk. 3-B.
Material.

Emperor Oil Co. No. 1 Continental-Holley, sec. 12, Blk. 8-12.
T.P. 2,704 ft.; T.D. 2,943 ft.; P.B. 2,933 ft.; shot; cleaning out.

Falcon Oil Co. No. 1 McCutchen, sec. 15, Blk. B-2, P.S.L. Sur.
Drlg. 2,820 ft.

Gulf Prod. Co. No. 1 Hill, sec. 9, Blk. B-11.
Drlg. 3,500 ft.

Gulf Prod. Co. No. 10 Keystone, sec. 10, Blk. B-3.
T.D. 3,576 ft.; P.B. 3,522 ft.; made 149 bbls. oil.

Gulf Prod. Co. No. 66 O'Brien.
T.D. 3,061 ft.; cleaning out.

R. H. Henderson No. 1 McCutchen, sec. 16, Blk. B-3.
Derrick.

Herbert Oil Co. No. 1 I. Hendrick, 2,310 ft. from S and W, sec. 14, Blk. 26.
Location.

Humble O. & R. Co. No. 1 L. Daugherty, sec. 20, Blk. 74, midway between Bayre and Scarborough pools.
Location.

Humble O. & R. Co. No. 1 Leck, sec. 21, Blk. 74.
Location.

K-D Oil Co. No. 1 P. Mitchell, sec. 23, Blk. B-10, P.S.L. Sur.
Ready to spud.

Magnolia Pet. Co. No. 1 N. R. Colby, sec. 38, Blk. 26, P.S.L. Sur.
R.U. rotary.

Magnolia Pet. Co. No. 1 State-Walton, sec. 7, Blk. B-3.
S.D. 3,279 ft.; shot.

Fred Hyer No. 1 Evans, sec. 8, Blk. 56.
Drlg. 1,330 ft.

Joiner No. 1 Evans, sec. 46, Blk. 73, P.S.L. Sur.
T.D. 1,260 ft.; underreaming casing.

Maxwell et al No. 1 State-Walton, sec. 27, Blk. B-3.
Rigging up machine.

Thurman et al No. 1 Seth Campbell 18-B-3, sec. 18, Blk. B-3, P.S.L. Sur.
T.D. 3,250 ft.; cleaning out to run tubing.

Sinclair Prairie Oil Co. No. 1 J. B. Walton, 440 ft. from N and E, sec. 20, Blk. 77, P.S.L.
S.D. 60 ft.

Sun Oil Co. No. 1 Keystone, sec. 3, Blk. 77.
S.D. 401 ft.

Superior O. & G. Co. of Tulsa No. 1 M. J. Hill, sec. 18, Blk. B-11, P.S.L. Sur.
T.D. 40 ft.; driving casing.

Wahlenmaier and Atlantic Oil Prod. Co. No. 1-A Walton, sec. 34, Blk. 74.
Drlg. 960 ft.

Yoakum County

C. J. Davidson et al No. 1 Bennett, sec. 678, John H. Gibson Sur.
Elev. 3,557 ft.; T.D. 5,090 ft.; 4,000 ft. fluid in hole, mostly oil; erected four 500-bbl. tanks; laid flow lines.

Texas Panhandle Wildcats

Week Ending February 17

Cottle County

Alma Oil Co. No. 1 Yarbrough, 600 ft. from N and 1,900 ft. from E, sec. 546, Blk. H, W.&N.W. Sur.
Location.

Gray County

Harry Foster No. 1 Johnson, sec. 21, L. L. Erwin Sur.
Drlg. 2,400 ft.

Iverson et al No. 1 McKinney, 200 ft. from N and E of lease, sec. 137, Blk. 3, I.&G.N. Sur.
S.D. 1,353 ft.

K. Kinsey No. 1 Stephens, sec. 187, Blk. B-2, H.&G.N. Sur.
T.D. 2,475 ft.; standardizing.

Upland Oil Co. No. 1 Saunders, sec. 3, Blk. 1, B.S.&F. Sur.
S.D. 350 ft.

Hall County

Davis et al No. 1 Knorpp, 330 ft. S and W, sec. 7, Blk. A, A.B.&M. Sur.
S.D. 530 ft.

Phillips Pet. Co. No. 1 Hughes, C N½ sec. 4, Blk. H, H. Stephens Sur.
Show gas and oil 5,421-22 ft.; drlg. 7,743ft.

Hartley County

O. V. Beck et al No. 1-A Matador Ranch, sec. 20, Blk. 22, C.S.S. Sur.
Drill pipe stuck 4,600 ft.

Hutchinson County

Phillips Pet. Co. No. 1 Bryan, sec. 6, Blk. M-21, T.C. Ry. Sur.
Location.

Power Pet. Co. No. 1 Hodges, sec. 16, Blk. M-35, T.C. Sur.
Drlg. 300 ft.

L. L. Travis et al No. 1 Hodges, 330 ft. from N and E, sec. 14, Blk. X-02, H.O.& B. Sur.
Cellar.

Moore County

Shamrock O. & G. Co. No. 1 Ryan-Jones, sec. 190, Blk. 3-T, T.&N.O. Sur.
Drlg. new hole 2,175 ft.

Shamrock O. & G. Co. No. 1 L. L. Hill, sec. 359, Blk. 44, H.&T.C. Sur.
S.D. 2,554 ft.

Wheeler County

Allender & Heare No. 1 Harvey, sec. 67, Blk. 13, H.&G.N. Sur.
S.D. 2,175 ft.

Ben G. Barnett No. 1 Stewart, sec. 73, Blk. 13, H.&G.N. Sur.
S.D. 1,560 ft.

Dumar O. & G. Co. No. 1 Slavik, sec. 108, Blk. 23, H.&G.N. Sur.
T.D. 1,658 ft.; pulling pipe.

Johnston et al No. 1 Rabo, sec. 105, Blk. 23, H.&G.N. Sur.
Spudded and S.D.

Palmer et al No. 1 Fuller, sec. 71, Blk. 17, H.&G.N. Sur.
S.D. 1,605 ft.

Smith Bros. No. 1 Woodward, sec. 23, Blk. 24, H.&G.N. Sur.
Fishing 2,240 ft.

NORTH CENTRAL TEXAS WILDCATS

Week Ending February 15

Archer County

L. T. Burns No. 1-A Archer County, J. Llewellyn Sur. A-256.
Drlg. 1,010 ft.

Consolidated Oil Co. et al No. 1 L. F. Wilson, sec. 76, Lot 2, A.T.N.C. Lands.
Drlg. 940 ft.

Darsey and Continental No. 1 Jones, sec 1,840, T.E.&L. Sur.
Drlg. 1,320 ft.

Deep Oil Dev. Co. No. 11, Lease 4, L. F. Wilson, sec. 76, A.T.N.C. Lands.
Drlg. 3,460 ft., Canyon sand 2,214-36 ft.

Fain-McGaha et al No. 1 Perkins et al, 200 ft. from S and 1,150 ft. from W lines of N½ of Lot 3, sec. 11, A.T.N.C. Lands.
Drlg. 1,650 ft.

Luther Hedrick et al No. 1 M. B. Kay, 1,755 ft. from S and 2,321 ft. from E lines of Blk. 3, Harris Subd.
Location.

Harry Hines et al No. 1 Cullum & Jones, Blk. 3, sec. 18, A.T.N.C. Lands.
Drlg. 200 ft.

C. A. Lininger et al No. 1 Wm. Coleman, Blk. 32, Coleman Subd.
Drlg. 1,325 ft.

Perkins & Cullum No. 1 L. F. Wilson, sec. 118, A.T.N.C. Lands.
Drlg. 1,400 ft.

Seaberry et al No. 1 Parrish Bros., sec. 110, Wm. Sellars Sur. A-284.
Location.

J. B. Shirz No. 1 D. L. Wolf, Lot 56, Blk. 4, Clark & Plub Sur.
Location.

Baylor County

Hardgrave & McCulloch No. 1 Louis Hrncirik, sec. 5, B.B.B.&C. Sur. A-70.
Shut down 300 ft.

T. F. Hunter No. 1 Fayette County School land, Fayette County School Land Sur.
Drlg. 1,210 ft.

Morris & Spoonts No. 1 D. K. Martin, sec. 212, T.&N.O. Sur., A-748.
Drlg. 194 ft.

W. P. Morris et al No. 1 C. T. Porter, Edward Brown Sur.
T.D. 1,333 ft.; fishing drill pipe; sand with show oil and gas 1,320-24 ft.

Cooke County

Cain & Chandler No. 1 J. B. Burch, J. McWilliams Sur. A-659.
Material.

T. F. Frost No. 1 Rohmer, Blk. 16, George Grey Sur., A-516.
Drlg. 610 ft.

Hardin Oil Co. No. 1 J. G. Bonner, J. Lindheimer Sur.
Drlg. 1,350 ft.

J. F. Hart No. 1 Gwyn, University Sur A-419.
T.D. 1,510 ft., underreaming casing.

Hester Oil Co. No. 1 R. W. Trew, E. S. Ramsey Sur. A-1,620.
Oil sand 1,112-16 ft.; 600 ft. oil in hole; drlg. in.

H. E. Hoover et al No. 1 G. C. Cartwright, B. J. Thompson Sur. A-1,008.
Drlg. 270 ft.

W. F. Johnson No. 1 Pauline Gentzke, W. C. Brown Sur. A-102.
Drlg. 710 ft.

Lanier et al No. 1 Thetford, S.P.R.R. Sur. A-987.
Drlg. 640 ft.

L. A. Long et al No. 1 Sarles, Hunt County School Lands, Sur. A-440.
Rigging up rotary.

Mills & Carey No. 1 A. M. Bezner, J. B. Trenary Sur.
S.D. 520 ft.

N. Newburn No. 1 Dotson, Wm. Campbell Sur. A-238.
Drlg. 1,228 ft.

Charles Newsom No. 1 T. Wiesman, 150 ft. from N and W lines of SW¼ of Blk 9, Thos. Scott Sur. A-900.
Moving in spudder.

Petroleum Producers No. 1 J. W. Mount, J. C. Meeks Sur., A-758.
Spudding.

L. E. Rader No. 1 McCubbin, R. Wheelock Sur. A-1,684.
Spudded with spudder; and shut down for rotary.

Raye Oil Corp. No. 1 Reiter, G. M. Casey Sur. A-198.
Sand wtih show of oil 936-42 ft. and 944-45 ft.; T.D. 986 ft.; cleaning out.

W. F. Russell No. 1 Belle Payne, Marshall University Sur. A-620.
Rigging up spudder.

J. M. Russell et al No. 1 B. B. Bawley, Blk. 24, John Barnett Sur.
S.D. 500 ft.

Sunray Oil Co. et al No. 1-A A. C. McCall, W. H. White Sur. A-1,134.
Rigging up rotary.

B. F. Thompson No. 1 P. Trubenback, 150 ft. S and E of SE corner of I. S Fields Sur. A-388, but in P. Davidson Sur. A-337.
Rigging up spudder.

Woodbine Oil Co. No. 1 Potter & Potter, J. Gorham Sur.
T.D. 645 ft. in sand with show oil; S.D.

Denton County

Burns Oil Co. No. 1 J. T. Harmon, J. M. Moses Sur.
T.D. 2,177 ft.; tested salt water after cementing at 1,954 ft.; shut down.

Oil Finance Corp. No. 1 J. S. Gambill, T. Burress Sur.
S.D. 470 ft.

C. S. Hoad No. 1 Travelers Insurance Co., Wm. A. Thompson Sur. A-1,238.
R.U. and S.D.

Foard County

Humble O. & R. Co. No. 1 Burnett, sec. 16, Blk. X, S.P.R.R. Sur.
Drlg. 650 ft.

Jack County

Bryson Oil & Gas Co. No. 1 G. E. Evett George Hardesty Sur. A-294.
Moving in tools.

Iron Mountain Oil Co. No. 1 J. W. Birdwell, Geo. Hardesty Sur. A-294.
Coring 2,977 ft.

Jackson et al No. 1 Bloodworth, J. F. Chenirs Sur. A-149.
Location.

E. C. Lawson et al No. 1 Patterson, 241 ft. from S and 282 ft. from W lines of farm, Lewis Knight Sur. A-324.

Rigging up rotary.

Nelson Oil Synd. No. 1 J. P. McCoy, A. S. Ensworth Sur.
T.D. 1,980 ft.; set casing at 1,945 ft. and S.D.

Montague County

Boardman Bros. No. 1 I. Keck, Wm. Donoho Sur.
S.D. 897 ft. for spudder.

A. Gutowsky et al No. 1 J. E. Lemmon, Blk. 13, C. K. Hamm Sur. A-322.
Drlg. 580 ft.

J. F. Hart No. 1 W. M. Talley, J. Perrin Sur.
S.D. 1,475 ft.

Jim Seeds et al No. 1 Coombs, sec. 58, M.E.P.&P. Sur.
Drlg. 995 ft.

W. E. Howard No. 1 C. F. Phillips, V. B. Matthews Sur.
S.D. 270 ft.

F. L. Vaich No. 1 Adams, R. H. Grimes Sur. A-288.
Drlg. 1,925 ft.

M. C. Wells No. 1 Collier, M. Hunt Sur., sec. 14.
Spudded and S.D.

Westqumo Co. No. 1 J. M. Willett, Blk. A, Harriet Brown Sur.
S.D. 1,110 ft.; sand with H.F.W. 1,102-10 ft.

Throckmorton County

Ben Ashe et al No. 1 W. B. Parrott, sec. 961, T.E.&L. Sur.
Moving in.

J. W. Cole No. 1 Chandler, sec. 2,142, T. E.&L. Sur.
Location.

Ben F. Looney, Jr., No. 2 Robinson, sec. 1,650, T.E.&L. Sur.
Gas sand 396-412 ft.; est. 1,500,000 ft. gas daily.
T.D. 412 ft.; shut down.

Wichita County

P. H. Flynn No. 1 W. L. Scott, sec. 14, Tarrant County School Land Sur. A-282.
S.D. 2,011 ft.

Luke Hodges No. 1 J. W. Aiken, sec. 6, Tarrant County School Land Sur. A-282.
Drlg. 2,133 ft.

W. B. Omohundro No. 1 S. P. Gibson, Blk. 302, Waggoner Colony Lands.
Drlg. 603 ft.

Wilbarger County

Franklin Oil Co. No. 1 D. G. Feller et al, sec. 108, Blk. 14, H.&T.C. Sur.
T.D. 1,520 ft., set casing and now cleaning out.

W. B. Hamilton No. 1 W. T. Waggoner estate, Blk. 30, J. Poitevent Sur. A-1,612.
Drlg. 1,150 ft.

King Royalty Co. et al No. 1-N Waggoner Est., sec. 104, Blk. 14, H.&T.C. Sur.
Drlg. 1,530 ft.

Smith No. 1 S. A. Dill et al, sec. 32, Blk. 14, H.&T.C. Sur.
Drlg. 1,917 ft.

Wise County

W. B. Hamilton No. 1 S. L. McNay, N. Ledbetter Sur.
S.D. 1,277 ft.

Jarvis & Nix et al No. 1 Williams, Blk. 4, F.C.S.L. Sur.
S.D. 975 ft.

Young County

Barton & Scott No. 1 J. L. Rhodes, B. A. Kutch Sur. A-1,333.
Derrick.

R. Bullock No. 1 Fee, Mary Hamilton Sur. A-138.
Location.

Carl Pet. Co. No. 1 Goss, sec. 1,592, T.C. &L. Sur.
S.D. 1,000 ft.

Christie Bros. No. 1 Deats et al, J. C. Holly Sur. A-1,602.
Machine.

Christie Bros. No. 1 Primitive Baptist Church, S. L. Hill Sur. A-126.
T.D. 2,620 ft.; S.D. for repairs.

Curtis & Bracken No. 1 Allar Co., H. Garmes Sur. A-104.
Drlg. 160 ft.

B. C. Gilmore et al No. 1 A. Williams, W. C. Adams Sur. A-1,364.
Oil sand 578-82 ft. and broken oil sand 598-619 ft.; may shoot.

Harry Hines et al No. 1 R. T. Kerr, 1,050 ft. from S and 750 ft. from W lines of sec. 173, T.E.&L. Sur.
Location.

C. E. Knox No. 1 Washam, Blk. 8, sec. 1,412, T.E.&L. Sur.
Derrick.

Dobbs Oil Co. and McLester No. 1 Laquey, J. Busse Sur. A-1,570.
Drlg. 740 ft.

Murry R. Hart No. 1 McCluskey, T. J. Mullinax Sur. A-1004.
R.U. and S.D.

Nash & Windfohr No. 1 W. S. Simms, D. Franklin Sur. A-1,425.
Derrick.

C. D. Neff et al No. 1 W. A. Dennis, C. P. Bass Sur.
Show gas in sand 1,990-95 ft.; wtr. 1,995-2,000 ft.; T.D. 2,100 ft.; fishing tools.

Pitzer & West No. 1 McCluskey, sec. 1,104, T.E.&L. Sur. A-327.
Drlg. 450 ft.

Pitzer & West No. 1 S. L. Thornton, sec. 1,015, T.E.&L. Sur. A-824.
Building derrick.

Ray & Staniforth No. 1 Wooten, sec. 1,976, T.E.&L. Sur.
Drlg. 200 ft.

Pitzer & West No. 1 J. N. Booser, sec. 1,104, T.E.&L. Sur., 150 ft. south of river Line 3,600-05 ft.; hole full oil; acidized with 3,000 gals. acid; flowed 35 bbls. per hr.; cased off upper pay; lower pay 3,990-94 ft.; est. 100 bbls. per day; dry at T.D. of 4,485 ft.; P.B. to 4,025 ft.; shot with 80 qts. from 3,990-4,025 ft.; and 160 qts. from 3,990-4,025 ft.; swabbing through tubing.

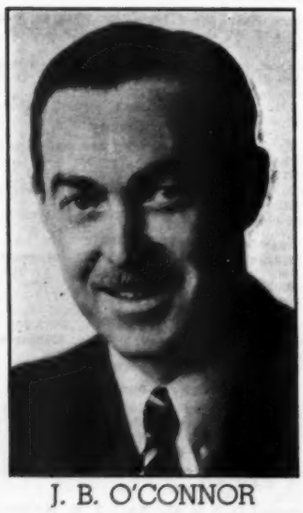
E. C. Reed No. 1 A. C. Dawa, sec. 1,680, T.E.&L. Sur.
Drlg. 470 ft.

Roberts Oil Corp. No. 1 Brogden, H. Garmes Sur. A-104.
Drlg. 1,055 ft.

Texas Co. No. 1 G. B. Hamilton, sec. 1,480, T.E.&L. Sur.
Drlg. 820 ft.

New Officers of Clark Bros. Company

PAUL CLARK



J. B. O'CONNOR

F. H. LIGHT

Clark Bros. Co., of Olean, N. Y., one of the leading manufacturers of oil industry engines and compressors, have announced new officers, elected following the recent death of J. S. Reid, president of the company.

The new officers of the company are C. Paul Clark, president; John B. O'Connor, vice president, and F. H. Light, secretary and treasurer.

The company's new president, Paul Clark, is a son of one of the founders of the company, William Clark, and has been responsible for the development of the company's oil field engine and compressor equipment.

The new vice president, "Johnny" O'Connor, has been with the company since 1929, having started as manager of the Texas office. He was advanced to the position of sales manager in 1932, with headquarters at Olean, and as vice president continues to be director of sales.

Mr. Light has been with the company for many years. He was assistant secretary and treasurer.

The company has also recently announced the appointment of D. K. Hutchcraft, for many years on its Mid-Continent sales staff, as Mid-Continent manager with headquarters at the company's Tulsa offices.

Market Record of Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforsheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935-36 High	1935-36 Low	Week ended Feb. 15 Sales	Week ended Feb. 15 High	Week ended Feb. 15 Low	Week ended Feb. 15 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends Paid in 1935	1934 High	1934 Low	1933 High	1933 Low
87	48¼	1,500	86	83	83½	Amerada Corp.	788,675	N.P.	50cQ	1-31-36	$2.00	55⅝	39	47⅝	18½
34	20½	23,600	34	32⅝	33⅛	Atlantic Refining	2,664,904	$25	25cQ	12-16-35	1.00	35¼	21½	32½	12⅝
18¼	5⅞	22,000	17⅞	17	17⅛	Barnsdall Corp.	2,195,397	$5	15cQ†	2-1-36	‡.20	10	5⅞	11	3
18⅝	3⅜	156,000	18⅜	16	18	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-15-35	.20	19¼	6⅝	28⅛	9
15	6½	74,600	14½	13½	13¾	Consolidated Oil Corp.	13,996,072	N.P.	14c	10-31-34	.25	14¼	7¼	15⅝	5
38½	15⅛	20,900	38½	36⅛	36⅝	Continental Oil of Delaware	4,682,722	$5	25c	1-31-36	.62½	22¾	15¾	19⅝	4⅞
34⅜	11⅜	8,700	34⅜	32¾	32¾	General Asphalt	387,149	$10	25c	12-17-35	.25	23½	12	27	4⅝
12¼	1½	18,900	10⅜	10⅛	10⅜	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	5⅝	2½	7⅜	1⅞
22	9½	8,600	21⅛	19⅝	19⅝	Mid-Continent Petroleum	1,857,912	$10	25c	12-2-35	.40	14⅜	9⅛	16	3⅜
32	9	4,500	31¼	28½	28¾	National Supply of Delaware	382,591	$25	....	5-15-31	....	21⅛	10	28⅝	4
17½	9¼	22,300	17	16	16⅜	Ohio Oil Co.	6,563,377	N.P.	15cSA	12-14-35	.30	15⅞	8½	17⅝	4⅜
18	6¾	5,500	18	16⅝	16⅝	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.25	9⅜	5½	9½	3
3⅝	½	800	2¾	2⅝	2¾	Panhandle P. & R.	198,770	N.P.	....	.....	....	2½	⅝	4¼	⅝
48¾	13¾	26,400	45⅛	43¼	43¾	Phillips Petroleum	4,154,687	N.P.	50c†	2-29-36	1.25	20¾	13⅜	18¾	4⅞
15¼	6½	8,400	14⅞	13½	13¾	Plymouth Oil Co.	1,050,000	$5	25c	3-30-35	.25	16¾	7¼	17⅝	6⅜
21⅛	5⅞	66,700	20⅞	20	20⅜	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	14⅞	6⅛	15⅜	2½
57	29½	900	55¾	54	54⅝	Royal Dutch N. Y. shares	fl. 503,642,000	fl. 100	$1.70	8-1-35	1.70	39½	28⅝	39¾	17⅝
38	20¾	7,500	36½	35½	35⅞	Seaboard Oil of Delaware	1,244,283	N.P.	15cQ†	12-14-35	1.00	38⅜	20¾	43⅜	15
18½	5½	17,400	17¾	16½	16¾	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	11½	6	11⅝	4
116½	63⅛	2,000	116¼	113¼	116¼	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	89	57	61	28½
18¾	4¾	6,100	5⅜	5¼	5¼	Simms Petroleum	461,688	$10	1.25 liq.	10-18-35	11.75 liq.	17⅛	7¼	12⅜	4⅞
27¾	6½	5,400	26¾	25	25	Skelly Oil	1,008,514	$15	....	12-15-30	....	11½	6	9⅞	3
17	10⅝	100,100	16½	15¾	15⅞	Socony-Vacuum	31,154,379	$15	20cSA	3-16-36	.30	19⅞	12½	17	6
47⅝	27¾	32,100	47⅝	45⅝	46	Standard Oil of California	13,102,900	N.P.	25cQ†	3-16-36	1.00	42⅞	26½	45	19½
40¼	23	24,200	40	37½	37¾	Standard Oil (Indiana)	15,215,677	$25	25cQ	3-16-36	1.00	32¾	23¼	34	17
32	20	600	30	30	30	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	....	41	26	39⅞	12¾
60⅝	53¾	44,900	60⅜	59⅛	59⅞	Standard Oil of New Jersey	25,856,081	$25	50cSA†	12-16-35	‖1.25	50⅛	39¼	47½	22⅝
89	60½	900	87⅛	86½	86¾	Sun Oil	1,733,013	N.P.	25cQ	3-16-36	$1 & 7% Stk.	74¼	51½	59	35
34⅞	16½	23,200	34⅞	33½	34	Texas Corp.	9,486,417	$25	25cQ	1-1-36	1.00	29⅝	19⅝	30⅛	10⅜
13½	3¼	64,700	13½	11⅛	12	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	....	6½	2½	6½	1⅝
19⅛	7⅝	28,500	18⅞	18	18	Tide Water Associated	5,631,341	N.P.	25c	1-15-36	....	14⅜	8	11⅜	3½
104½	84	1,900	104½	104	104½	Tide Water Associated pfd.	666,524	$100	$1.50Q	1-2-36	§6.50	87	64½	65¼	23½
28½	14¾	13,500	28¼	26¾	26⅞	Union Oil of California	4,386,070	$25	25cQ	2-10-36	1.00	20½	11½	23⅜	8½
31⅝	20¼	2,600	30⅝	29⅞	30	Union Tank Car Co.	1,200,000	N.P.	30cQ	3-2-36	1.20	25⅜	15⅝	22⅜	10½
4⅝	1	1,600	4	3¾	3¾	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¾	2	5½	2

*Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35.

Market Record of Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforsheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935-36 High	1935-36 Low	Week ended Feb. 15 Sales	Week ended Feb. 15 High	Week ended Feb. 15 Low	Week ended Feb. 15 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends Paid in 1934	1934 High	1934 Low	1933 High	1933 Low
16	3¾	1,700	14	13¼	13⅝	Bridgeport Machine Co.	150,000	N.P.	....	5-1-30	....	3¾	½	1½	¼
50	30½	350	48¼	48	48	Buckeye Pipe Line Co.	200,000	$50	75cQ	3-14-36	$3.00	38	26	29¾	25
4⅞	1⅝	12,000	4⅝	3⅞	4	Carib Syndicate	799,020	25c	....	.....	....	5½	1½	7¾	⅛
157	115	300	123¼	122	123¼	Chesebrough Mfg. Co.	120,000	$25	$1Q†	12-27-35	6.50	150	116	129	71
7⅝	¾	232,400	6⅞	5⅞	6⅜	Cities Service	37,804,394	N.P.	....	6-1-32	....	4¼	1¼	6¼	1⅛
3	½	19,600	2⅞	2¼	2½	Colon Oil	2,200,000	N.P.	....	.....	....	3¼	½	4	¼
4⅛	¼	74,600	4⅛	2¾	4	Cosden Oil	399,687	$1	....	.....	....	3¾	½	3¾	1⅜
34¾	10	20,100	33	31⅜	31⅜	Creole Petroleum	6,974,356	$5	20c	12-31-35	.20	14⅜	9⅝	12	4⅜
11	4	1,000	10½	10⅛	10⅛	Darby Petroleum	500,696	$5	25cSA	1-15-36	.50	7½	4⅛	8	2¼
3½	⅝	200	3	3	3	Derby Oil & Refining	263,162	N.P.	....	.....	....	2¼	1	2¾	⅞
44	33¼	No sales	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	2-1-36	4.00	37	30	41¾	20
87½	50¼	6,900	84¼	80¼	80¼	Gulf Oil Corp.	4,538,101	$25	....	10-1-31	....	76¾	49¾	62	24
73⅞	44	6,700	70⅞	68⅛	69	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	10-1-35	1.25	49½	33¼	105½	40
24½	15⅝	14,000	24¼	23⅝	24	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-2-35	1.25	17⅞	12⅝	15⅞	6½
9¼	3⅝	2,200	8⅞	7⅞	8⅛	Indiana Pipe Line	300,000	$10	15cSA†	11-15-35	.35	6⅞	3⅝	8	3⅛
39⅜	28	13,900	38⅞	37½	38¼	International Petroleum	14,247,088	N.P.	$1.25†‡	12-2-35	2.50	33⅜	19⅜	23½	8⅞
14¼	4⅜	17,200	14	13¼	13⅜	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	12-16-35	.10	5	2⅛	2¼	⅞
9½	3½	1,300	9⅜	8⅜	9⅜	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	6	3⅜	9½	1¼
13⅞	4½	11,400	13⅞	12⅜	13⅛	Lone Star Gas	5,382,723	N.P.	20cSA	1-15-36	.30	8⅜	4¼	11⅞	4⅜
8⅜	4⅛	4,200	7⅞	7⅝	7¾	Mountain Producers	1,682,182	$10	30cSA	12-31-35	.90	5½	4	6½	2½
23	11⅜	8,500	22⅛	20	22	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-36	1.25	18⅛	13⅛	20	10
15⅜	6¾	7,200	15¾	14¼	14¼	National Transit	509,000	$12.50	35cSA	12-16-35	.75	9½	7	10	5½
4½	2	2,200	4⅛	3⅝	3¾	New Bradford Oil	1,445,202	$5	10cSA	9-16-35	.20	2½	1¾	2¼	½
6⅝	1	14,300	6⅝	6	6	New Mexico and Arizona	1,000,000	$1	....	.....	....	2¾	1	1⅞	½
6	3	400	6	5¾	6	New York Transit	100,000	$5	15cSA	4-15-35	.30	4¾	3	4⅞	3
9¼	5¼	900	9¼	8	8	Northern Pipe Line	120,000	$10	25cSA	2-2-36	.50	7	4⅝	6⅛	4¼
6¼	1¼	37,400	5⅝	5	5	Pantepec Oil	1,608,700	N.P.	....	.....	....	2⅝	⅞	3⅜	½
3⅛	⅝	2,500	2⅞	2½	2⅞	Ryan Consolidated	296,931	N.P.	....	.. ...	....	3⅜	⅞	4½	⅝
10	5½	2,200	9¼	8⅜	8⅜	Salt Creek Producers	1,496,859	$10	40cSA	12-31-35	1.20	7⅞	5½	9¼	3½
35⅛	21⅝	4,200	34	33	33½	South Penn Oil	1,200,000	$25	40cQ	12-28-35	1.35	26½	17½	22⅛	11
7⅞	3⅞	2,300	7⅞	7¼	7¼	Southern Pipe Line	100,000	$10	15cSA	3-2-36	.30	5½	3½	6	2⅛
56	44¼	50	56	56	56	Southwest Penna. Pipe Lines	35,000	$50	$1Q†	12-31-35	5.00	47	41	43	24½
24	18	3,700	22½	22	22¼	Standard Oil of Kentucky	2,604,790	$10	25cQ†	12-14-35	1.25	18⅜	14⅝	19¼	8⅝
14⅝	7¾	500	13¼	12¾	13¼	Standard Oil of Nebraska	188,403	$25	....	6-20-34	....	16⅞	8¼	20½	11
27⅜	11½	1,700	26½	25⅝	26	Standard Oil of Ohio	753,740	$25	....	1-3-33	....	28½	12¼	41	15½
4¼	⅞	20,100	3¾	3⅜	3⅝	Sunray Oil	1,610,810	$1	....	4-15-31	....	2	11/16	1½	⅛
9	5	10,100	8⅝	8¼	8½	Texon Oil & Land	336,028	N.P.	15cQ	12-30-35	.60	11	4⅜	13⅜	6¼
7½	2½	11,300	7	6⅜	6⅝	Texas Gulf Producing Co.	888,058	N.P.	....	12-29-34	....	7	3⅜	6½	3⅜

*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note.—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

PERSONAL

HALLEN N. MARSH, petroleum engineer with General Petroleum Corporation, Los Angeles, Calif., was elected chairman of the Petroleum Division of the American Institute of Mining Engineers at the recent annual meeting held in New York City. Mr. Marsh has long been identified with petroleum engineering activities in this society as well as with American Petroleum Institute and other associations allied with the petroleum industry.

S. E. SLIPPER, petroleum geologist, of Calgary, Alberta, recently visited Edmonton and the Wainwright field.

MARVIN JONES, with the Magnolia Petroleum Company, is now assistant to CHIEF SCOUT HOWARD BOYD, of that company.

H. S. NEWBY, transportation manager for the Skelly Oil Company, Tulsa, has returned to his headquarters after a trip to New Mexico and Texas.

DON SMITH, formerly in the geological department of the White Eagle Oil Corporation at Wichita, Kans., has joined the production staff of the Wentz Oil Corporation with headquarters in Ponca City, Okla.

JOHN B. NORTHCOTT, of Hart, Mich., independent operator in the Oceana County field of western Michigan, has recovered from a four-month illness and is planning to resume operations of a near completed well in the field soon.

G. H. BLANKENSHIP, independent oil operator of Tulsa, and family, went to Springfield, Mo., last Friday to attend the funeral of Mr. Blankenship's mother, MRS. SARAH JANE BLANKENSHIP, 80 years old, who died at her home there after a long illness.

MR. AND MRS. E. V. REGAN and daughter SHEILA, who have been spending three months furlough in Forest, Oil Springs and other Ontario points have sailed from New York for Negritos, Peru, where Mr. Regan will rejoin the International Petroleum Company staff.

CARL E. SWINDLER is in charge of the new offices of the Jones & Laughlin Steel Corporation of Pittsburgh, Pa., at 412 Thompson Building, Tulsa, and will cover sales for Oklahoma and Kansas. JACK TICE has been transferred from the district offices at St. Louis, Mo., to handle office affairs. H. P. QUINN, adjuster and inspector for Jones & Laughlin in this territory for a number of years, will also use this office as headquarters.

G. R. PROUT, of the General Electric Company at Dallas, Tex., was here on business last week.

A. B. PURVIS, of Montreal, and F. A. GABY, of Toronto, former chief engineer of the Hydro-Electric Power Commission of Ontario and during recent months assistant to the president of the Canadian Pacific Railroad, have been added to the board of British American Oil Company, Ltd., at a meeting of the board.

DR. CLIVE M. ALEXANDER, of St. Louis, Mo., and Muskegon, was elected senior vice president and a director of the Old Dutch Refining Company at a directors' meeting in Muskegon Tuesday, February 18. Doctor Alexander has been placed in charge of new construction and refining operations of the company which is planning the installation of a new $200,000 reformation or cracking unit during the next six months.

W. L. CONNELLY, chairman of the board of the Sinclair Prairie Oil Company, Tulsa, left for New York late Thursday after hearing of the death of WILLIAM S. MOWRIS, chairman of the board of the Venezuela Petroleum Company, and attended the funeral of his friend in that city Saturday.

A. JACOBSEN, president of the Amerada Petroleum Corporation; A. M. BLOW, vice president and general manager, and a party of English stockholders in the company are touring the Mid-Continent field. The English visitors are CLYDE PEARSON, JOHN BODY, JOHN TANNER and HENRY MARSTERS, London. They will include Oklahoma, Texas and New Mexico in their trip.

C. LATHROP HEROLD, who joined the staff of the Shell Petroleum Corporation as geologist in the exploration department last November, is now in the Houston office in the Shell Building. He was formerly an instructor in the geology department at the University of California, Berkeley, Calif., and spent several months last summer and fall in Queen Charlotte Islands, British Columbia, in petroleum exploration work for private enterprises of San Francisco.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

A "phenomenal production" of 216,588,308 barrels of oil in 1910 in the United States is 34,454,034 barrels greater than the 1909 production. The daily average production in 1910 in the United States was 593,393 barrels.

W. C. Henry, retired superintendent of the United Natural Gas Company with headquarters at Bradford, Pa., dies at his home in Chittenango, N. Y. He was 70 years of age.

Frank Peterson objects to the term "casinghead gasoline." He terms it "natural gas gasoline." Mr. Peterson is an authority on the subject.

20 YEARS AGO

As a result of the opening and development of Butler County fields in Kansas, leasing has spread north all the way to the Nebraska line and easterly into Greenwood and southerly into Cowley Counties.

McMan Oil Company has a 100,000,000-foot gasser in Shamrock, Okla., field, producing from Bruner, Layton, Jones, Skinner and Bartlesville sands.

There are 34 casinghead gasoline manufacturers in the Mid-Continent, with an investment of $3,500,000, employing 500 people, and with plant output of 115,000 gallons per day worth 18 cents per gallon.

Oklahoma's 3 per cent gross production tax bill is favorably reported out of committees. The tax is expected to yield the state $3,000,000 per year. As written it "soaks" oil producers and zinc, lead and coal mine companies.

10 YEARS AGO

The combined pipe line runs of 10 major pipe line systems in Kansas and Oklahoma in 1925 averaged 562,802 barrels per day of which half was produced by the affiliates of the pipe line companies and half was purchased.

R. D. Harshburger and C. W. Lee, Carter Oil Company employes, leave for South America to work for the Standard Oil Company of New Jersey. Mr. Harshburger goes to Buenos Aires, and Mr. Lee to Peru.

Smackover, Ark., with a production of 140,415 barrels per day, leads all fields in the United States. Long Beach, Calif., is second with a production of 113,500 barrels per day.

BON JASPERSON, natural gas operator of Kingsville, Ontario, is spending a month in Florida.

J. C. MEANS, president of the Alamo Drilling Company at Houston, Tex., is on an extended business trip through the east.

R. C. STAMETS, manager of tubular sales for Oil Well Supply Company, of Dallas, Tex., was in Tulsa on business the past week.

O. S. PETTY of the Petty Geophysical Engineering Company recently returned to San Antonio, Tex., after a short business trip to Tulsa.

JOSEPH HORRIGAN, superintendent of construction for Ford, Bacon & Davis with headquarters at Dallas, is spending several days in Houston on business.

JOHN G. MacLEOD, for several years on the staff of the United Gas & Fuel Company of Hamilton, Ontario, has been appointed office manager of the City Gas Company of London, Ontario.

L. B. McCAMMON, of Tulsa, vice president of the Marathon Oil Company, left last week on a trip that will include Robinson, Ill., and Chicago. Mr. McCammon is in charge of refining and sales for Marathon.

HARRY W. SCHUETZ, vice president of the Colona Protector division of Pittsburgh Screw & Bolt Company, Pittsburgh, Pa., and WALTER SWANEY, sales manager of Kerotest Manufacturing Company, Pittsburgh, were recent business visitors in Tulsa.

SIR HENRI DETERDING, head of the Royal Dutch-Shell organization, who was recently quoted in the American daily press as saying that a sharp decline in oil prices was near at hand, clears the situation with the statement that he has not discussed oil matters with anyone since leaving London for an extended trip.

PARAGRAPHS

R. K. TRACY, with the Humble Oil & Refining Company at the Thompson, Texas, district as farm boss, is now stationed in the Pledger district as district superintendent.

M. B. DONNELL, division office clerk with the Humble Oil & Refining Company in the San Antonio, Texas, division, has been transferred to the Taft district as chief clerk and warehouseman.

DALE BENSON, in the geological department of the Sinclair Prairie Oil Company, has been transferred from Amarillo, Tex., to Corpus Christi, Tex. DON BENSON has resigned as geologist for the Deep Rock Oil Company at Ada, Okla., to take a position with the Sinclair company in its geological department at Amarillo.

M. O. RIFE, JR., son of M. O. RIFE, general production superintendent for the Gulf Refining Company in West and North Texas, was married recently to MISS MINA SIMCOX of Fort Worth. The bride is a daughter of H. B. SIMCOX, division manager of the Continental Oil Company, at Fort Worth. The young couple will live in West Texas where Mr. Rife is connected with the Gulf Production Company.

CARL DUNLAP, formerly in the drafting department of the Texas Natural Gas Company at Amarillo, Tex., has been transferred to Dumas and made field foreman.

PAUL PUTNAM, for several years connected with supply companies in Texas, is now representing Cameron Iron Works of Beaumont, selling pressure equipment.

PAUL L. BROOKS, sales manager, Parkersburg Rig & Reel Company, Parkersburg, W. Va., is in Tulsa this week preparatory to attending the A. P. I. meeting at Wichita, Kans.

J. D. COLE, superintendent of the Humble Oil & Refining Company in the Greta, Texas, district, has been transferred to the Taft district. He was replaced by A. B. VANHOOSER, formerly in charge of the Pettus district.

P. J. SCHROEDER, of the Petroleum Service Company, Minneapolis, Minn., who was chosen chairman of the midwest marketing conference recently held at Chicago to consider a code of fair practices in marketing petroleum products, has been one of the leaders in the movement. The code drafted at the meeting will, after further revision at a meeting of the code committee February 27, be submitted to the Federal Trade Commission for approval.

R. A. KING, president of the Dixon Creek Oil Company, has been elected president of the North Texas Oil and Gas Association.

ALEX HOLMES of Petrolia, Ontario, sailed from San Francisco on February 4 for Sydney, Australia, where he has a five-year drilling contract.

J. SCOTT BLAIR, Ranger, Tex., has been transferred to the production department office of the Sinclair Prairie Oil Company at Midland, Tex.

T. E. TESSENDORF, sales engineer for the Worthington Pump & Machinery Corporation, has been transferred from Chicago, Ill., to Fort Worth, Tex.

W. H. KERSHAW, assistant general sales manager for the Texas Company with headquarters at New York, was a business visitor to the company's offices at Houston, Tex., last week.

H. B. SMITH, vice president, at Tulsa; W. G. GISH, in charge of the land and geological department; H. SMITH CLARK, chief geologist, and GLENN HARROUN, production superintendent, of the Texas division for the Sinclair Prairie Oil Company, were business visitors to Houston, Tex., last week.

ORAN NEEDHAM, with the Gulf Production Company at Breckenridge, Tex., is to marry MISS GRACE GAYLE of Fort Worth on February 25. O. C. NEEDHAM, the young man's father, is production superintendent of the Panhandle and North Texas districts for the Gulf Production Company, Fort Worth.

GEORGE M. BEVIER, oil geologist of Houston, Tex., has conveyed $10,000 to the University of Pittsburgh, Pa., the income to be used for the Pitt School of Mines, of which he is a graduate. School officials said the donor has in mind the fund eventually will be increased to $100,000. Mr. Bevier served as assistant state geologist of Pennsylvania from 1913 to 1915. He was born at Brookville, Pa.

Kept Him on the Jump

After George A. Goddard, recently made chief purchasing agent for the Empire companies, Bartlesville, Okla., entered the service of the Empire Gas & Fuel Company in 1917 they kept him on the jump from one new field to another because of his genius for getting development work done fast. And getting it done right. Before this jumping business began George had to go through some preliminaries, including being born in Ohio; acquiring his first oil-field experience near Woodsfield in that state as a roustabout for the Fisher Oil Company, now the Carter Oil Company; later getting on the payroll of the Columbia Gas & Electric Company in West Virginia oil and gas development work, and eventually working as a driller in Kentucky.

GEORGE A. GODDARD

This preparatory experience covered a period of nine years and fitted the young man for his next job, that of toolpusher for the Empire Gas & Fuel Company in the Eldorado, Kansas, field. Then came the jumping hereinbefore mentioned, to-wit: In 1920, to the Texas Gulf Coast to take part in the Empire's development work in the Hull field; 1922, to the Smackover field in Arkansas, where a boom was on; 1924, to the Burbank field in Oklahoma; 1925, back to Kansas, for the Greenwood County play; 1926, to Wichita Falls, Tex., where the Empire had leases in the Wagner Pasture field; 1930, to East Texas, where Mr. Goddard supervised completion of more than 200 wells.

In December, 1934, Mr. Goddard was sent to the company's headquarters in Bartlesville to become assistant to Ray Shaffer, superintendent of production. Promotion to chief purchasing agent for the group of Empire companies followed in January of the present year.

JOHN G. PEW, of the Sun Oil Company, Dallas, Tex., is in Philadelphia on a business trip.

H. R. RANDALL, of the Inter-Allied Petroleum Company, San Antonio, Tex., is in New York on business.

RICHARD HARLAN, representing the Star Drilling Company of Akron, Ohio, visited Chatham and other Ontario points recently.

J. H. REGAN has been transferred from Grand Island, Neb., to Midland, Tex., by the Indian Territory Illuminating Oil Company.

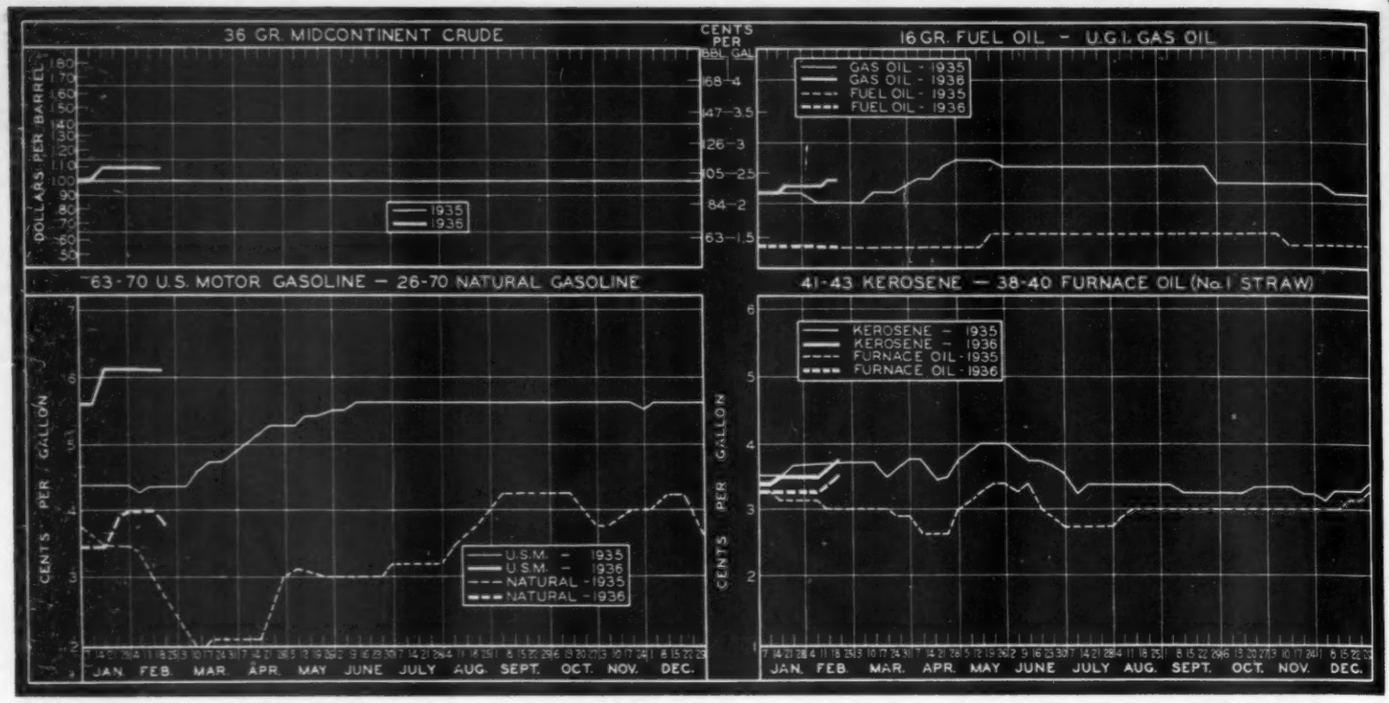
TOM NASH, formerly connected with an oil news service at Houston and Dallas, is now connected with the Taubman Supply Corporation in the latter city.

ARCHIE LEONARD, of the Devonian Oil Company, Tulsa, and E. S. CALVERT, with the same company in the East Texas field, have just completed a business trip to West Texas.

CARL LARKIN and RAY E. JOHNSTON, oil operators of Oklahoma City, were in the Lower Rio Grande Valley section of Southwest Texas last week. They plan to open operations in Hidalgo County.

C. K. RICKEL, president of the Big Three Welding Equipment Company, Fort Worth, presented a paper at the second annual welding conference held at Texas Technological College at Lubbock, Tex., on February 13 and 14.

FORD LAWTON, formerly representative for the Colmony Crystals Corporation, Los Angeles, is now representative for the Big Three Welding Equipment Company at Fort Worth, specializing in the introduction and sales of Colmony hard-surfacing products which are to be distributed in the Mid-Continent and Southwest by the Big Three company.


36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
CENTS PER BBL. GAL
1935
1936
16 GR. FUEL OIL - U.G.I. GAS OIL
GAS OIL - 1935
GAS OIL - 1936
FUEL OIL - 1935
FUEL OIL - 1936
63-70 U.S. MOTOR GASOLINE — 26-70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. - 1935
U.S.M. - 1936
NATURAL - 1935
NATURAL - 1936
41-43 KEROSENE — 38-40 FURNACE OIL (No. 1 STRAW)
KEROSENE - 1935
KEROSENE - 1936
FURNACE OIL - 1935
FURNACE OIL - 1936
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Group 3 Buyers Scramble for Heating Oils While Gasoline Goes Begging

By T. F. SMILEY

The heating oils elbowed the other refined products to one side in the Group 3 area this week and hogged the show. Not since the World War, refinery sales managers say, has there been such a scramble for furnace oils, with the heavier fuels in almost as lively demand. These products gained their place in the center of market interest at severe cost to the motor fuels, for the same freezing temperatures and snow-packed roads that created a flood of rush orders for heating oils reduced the demand for gasoline to a point which even the most pessimistic marketers had not foreseen. Aggravating the disjointed situation was the fact that some refiners who wanted to cut back their runs or even shut down because of the absence of motor fuel demand couldn't do it because they had furnace oil contracts to be filled, and in order to make the furnace oil they of course had to make gasoline, adding to already burdensome stocks.

Caught Unprepared

Both refiners and jobbers were caught unprepared for the prolonged series of blizzards which have swept two-thirds of the country. Inventories were inadequate to meet the abnormal demand for heating oils and industrial fuels. Jobbers have been buying at the maximum under their contracts, depleting refinery stocks. Both jobbers and refiners in the last week have tried every possible source in the effort to get material with which to appease the frantic pleas of buyers.

Most refiners have been forced to turn a deaf ear to all such entreaties unless these came from contract customers, and even then they have rationed their deliveries in an effort to take care of the most urgent cases first. Transportation has been so obstructed that movement of material has been difficult, and buyers in Iowa, Wisconsin and Minnesota have been offering premiums of a half-cent a gallon for immediate shipment out of Group 3. Many cars of furnace oil for which jobbers waited impatiently have been laid out somewhere in transit as the result of traffic jams.

Notwithstanding the flat gasoline market, there was a disposition throughout the trade to take things philosophically, and although unneeded stocks were piling up at a disquieting rate at some refineries, nobody saw anything desperate in the situation. For one thing, each day was bringing the inevitable spring pickup 24 hours nearer. For another, there was a gratifying readiness to reduce runs to stills or to shut down where such action was possible. For still another, there was a growing belief that increasing demand for crude would bring about another raise in price before long. And a higher price for crude would mean higher prices for gasoline.

In East Texas only a half-dozen or so refineries in position to ship on federal tenders were operating. The others operating were running chiefly on confiscated oil, their output eligible for state tenders only and sold for consumption inside the state. Some of the plants which are closed are shipping gasoline from inventories where orders are available. Most of the closed refineries have their own crude production and they are selling this crude, delivering it by their own gathering systems to main pipe line pumping stations. Virtually all the major companies which have been drawing on their own storage, are ready to buy crude at the present posted price, plus the gathering charge. The refiners, for their part, are better off under this procedure than they would be if they processed the oil themselves.

Prices Mean Little

Third-grade material was off an eighth, but prices made little difference, for there was virtually no spot demand for motor fuel.

Natural gasoline was in a bad way because, since refiners are the purchasers, it was a victim of the same unhappy conditions that had ruined the motor fuel market for the time being. The natural market in Oklahoma was weaker than that in Texas for the probable reason that there are a larger number of small plants, while in Texas the plants for the most part are in strong hands. All the manufacturers, however, are under even greater disadvantages than refiners in that they cannot cut back their output or shut down.

Kerosene, like its sisters the furnace oils, was running strong, with prices up. As a matter of fact, kerosene was being shipped in some cases to fill furnace oil orders.

Lubricants were holding well. Wax was sold out.

Refined Oil Market Barometer

The key to the refined market lies in the weather man's hands. Gasoline consumption has vanished in snowbound areas, but as a corollary heating oils and industrial fuels are in active demand. Belief is expressed that unwieldy accumulations of gasoline may cause a sag in prices, but that it is likely to be of short duration. Increasing demand for kerosene is seen.

MID-CONTINENT. Gasoline and naturals weak. Heating oils and heavy fuels strong. Kerosene up.

EAST COAST. Heating oils and fuels strong. Wax and steam-refined stocks up.

GULF COAST. Fuel oil and kerosene stronger. Gasoline weak.

PENNSYLVANIA. Fuel oil and kerosene strong. Wax firm. Gasoline stocks piling up.

CALIFORNIA. General market weak owing to unfavorable weather and overproduction of crude.

CHICAGO. Fuel oils strong and scarce. Gasoline weak and stocks too large. Kerosene firm.

Eastern Market Centers on Heavy Oils With Lessened Demand for Gasoline

By C. O. WILLSON

NEW YORK, Feb. 17.—The strength in refinery markets for the eastern part of the United States continues to center in the heavy oils with a lessened demand for light products—both situations to a large extent reflecting weather conditions. The price advances in furnace oils, gas oils, diesel oils and some grades of industrial fuels announced earlier in the month are being maintained and several sellers are predicting still higher quotations before the end of this week. Continued low temperatures are keeping all types of transportation busy in the delivery of these oils, and rush orders are keeping many sales departments working over time.

Sellers of wax and steam refined stocks were furnishing the only important price advances of the week. Some sellers of Pennsylvania steam refined stocks are sold up for delivery over the next few weeks and they have made advances of from 1 to 2 cents per gallon in their quotations. These sellers were reported to be asking 18 cents for Pennsylvania 600 S.R. unfiltered in barrels for export; 20½ cents for 600 flash S.R. and 21 cents for 600 Warren E. These prices are one-half to 1 cent higher than other quotations. The exort demand for these products has increased since the first of the year and supplies are limited. Pennsylvania and the western grade bright stocks are not so strong as the cylinder stocks with 26 cents in barrels for No. 8 Pennsylvania the market at this time. Paraffin base neutrals are not so strong and 200-3 Pennsylvania in barrels for exports is quoted at 28 cents.

Additional manufacturers of wax have advanced their export prices. Several sellers have also advanced their quotations on crude scale for both export and domestic movement.

Quotations as high as 2.5 cents for 124-126 white scale are heard. Other sellers are going slow in making advances and the general price range for this grade is 2.30 to 2.40. One large sale at 2.275 was reported last week.

Market observors who are inclined to take the pessimistic viewpoint and who have been in an eclipse for several weeks during an advancing market, are once more able to present their views and receive attention. Particular reference is made to the gasoline market. The tankcar prices in this territory so far as the writer has been able to determine are firm despite the slow movement which is now in its fourth week. In the retail end the situation is not so favorable. Major distributors are having difficulty maintaining the price advances made effective last month in western New York. Retail prices are down at Buffalo, Syracuse and other points from 1 to 3 cents below normal. There are weak points in New England.

The weekly reports of the A.P.I. are also pointed to showing the large increases in gasoline storage which are greater than the usual sensonal gaines for this time of the year. This is said to be due to the fact that refiners are running more crude to their stills than they should, coupled with the fact that weather conditions have retarded actual consumption. It is said that the effect of these developments is more apparent in the middle west and other parts of the country but it is predicted they will spread to this section. In other words it is the old bugaboo of over production during the period of minimum consumption to which the authors of these pessimistic predictions point with the conclusion that there should be a 10 to 15 per cent reduction in gasoline output over the next few weeks.

These observors can also point to the export market in support of their position. Light gasoline comparable in specifications to 64-66 375 end-point aviation was quoted at Constantza, Rumania, as prices which were equivalent to Gulf Coast quotations ranging from 4 to 4¼ cents for European delivery. The Rumanian gasoline market has been weak since the first of the year and the quotations of refiners there over the past 10 days do not point to any improvement. These low quotations have naturally ended all spot business at the Gulf. American sellers apparently are refusing to meet these low Rumanian quotations and the nominal price on 375 at Gulf ports remains around 5¾ cents. This situation cannot continue indefinitely. This wide disparity between Rumanian and Gulf prices naturally tends to throw more gasoline on the domestic market in this country. Refiners and terminal operators at the Gulf advanced their prices when crude schedules were hiked early last month, and they are attempting to maintain these higher prices.

No one appears to have a satisfactory explanation of the Rumanian price situation. It is pointed out that certain Rumanian refiners are accustomed to make quick changes in their quotations. Whenever their gasoline supplies accumulate they reduce their quotations to whatever levels are necessary to secure immediate orders. When these are obtained they again advance their prices to the point where they are often noncompetitive with the going market at other points. This was true over the latter part of 1935. Conditions in Rumania are tied in with the unsettled European conditions involving currencies, trade agreements and the threatened embargo on shipments to Italy. Locally those who know most about these conditions are slow in making any predictions as to what will happen marketwise in the near future but in most cases they do not believe that foreign developments will prove a serious disturbance in domestic markets for the first half of 1936 at least.

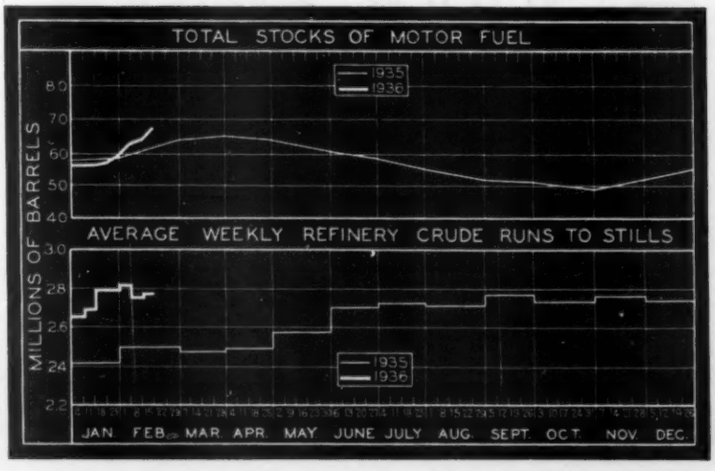
One exporter pointed to the crude market at the Gulf as indicating a strong market situation regardless of temporary conditions in prices for refinery products. There are a number of foreign refinery operators who are anxious to secure crude oil at the Gulf Coast or on the West Coast. They are in the market for spot cargoes, and are also anxious to make contracts through the year. It is known that these buyers so far are having little success.

A. P. I. Weekly Refinery Statistics

Week Ending February 15, 1936

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	511,000	16,223,000	5,610,000
Appalachian	94.8	93,000	2,731,000	675,000
Indiana, Illinois, Kentucky	95.9	357,000	10,518,000	2,403,000
Oklahoma, Kansas, Missouri	84.8	259,000	7,291,000	2,824,000
Inland Texas	48.5	99,000	1,558,000	1,468,000
Texas Gulf	96.8	543,000	8,458,000	7,979,000
Louisiana Gulf	96.4	121,000	1,741,000	2,934,000
North Louisiana and Arkansas	90.0	43,000	383,000	537,000
Rocky Mountains	61.9	50,000	1,307,000	684,000
California	92.6	492,000	12,943,000	70,179,000
Total reported	89.6	2,568,000	63,153,000	95,293,000
Estimated unreported	.....	197,000	4,312,000	1,258,000
*Estimated total	.....	2,765,000	67,465,000	96,551,000
*Estimated total previous week	.....	2,760,000	64,738,000	99,231,000
†February 28, 1935	.....	2,529,000	64,888,000	101,085,000

*Bureau of Mines basis currently estimated. †Monthly report, U. S. Bureau of Mines.



Prices

Middle octane U. S. Motor gasoline is quoted at 7 cents in New York harbor with no sales reported under that figure for tankcar delivery. The 65 octane gasoline is 7¼ cents and ethylized branded grades 7½ to 7¾ cents. Export prices at the Gulf are unchanged.

There is plenty of kerosene available in this territory at 5¼ to 5½ cents with the same situation reported at Gulf where the price is 4 cents. Furnace oils in New York harbor are 4½ cents for No. 4; 4¾ cents for Nos. 2 and 3 and 5¼ cents for No. 1. There is a good demand for gas oil at 4½ cents.

Bunker C fuel oil is unchanged at $1.05 per barrel and diesel fuel to the marine is strong at $1.65. Residual fuels to the industrial trade are active with predictions that quotations on all residual products will be advanced before the end of the month.

In this connection it is understood that in making yearly contracts covering 1936 or longer periods some of the sellers are protecting themselves with a top price of $1.30 for Bunker C fuel in the New York harbor area. For delivery at the Gulf the top price in these contracts is $1.15. These top prices represent a boost of 10 to 15 cents per barrel and indicate that sellers believe spot prices may go higher before the end of the year and want this additional protection.

RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of February 18, 1936

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank-wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Chicago	14.5	16.5	4.0	9.5
Decatur, Ill.	16.0	16.5	4.0	9.5
E. St. Louis	15.2	17.2	4.0	9.5
Joliet	16.0	16.5	4.0	9.5
Peoria	16.0	16.0	4.0	9.5
Quincy	15.5	17.5	4.0	8.0
Davenport, Ia.	16.0	(†)	4.0	9.5
Des Moines	15.5	(†)	4.0	9.5
Mason City	16.2	(†)	4.0	10.0
Sioux City	16.0	(†)	4.0	9.5
Duluth, Minn.	16.5	18.5	4.0	10.6
Mankato	16.4	18.4	4.0	10.2
Minneapolis	16.4	18.4	4.0	10.2
LaCrosse, Wis.	17.4	19.4	5.0	10.2
Green Bay	17.7	19.7	5.0	9.0
Milwaukee	15.3	17.3	5.0	10.1
Madison	17.4	19.4	5.0	10.2
Detroit, Mich.	14.0	16.0	4.0	8.0
Grand Rapids	16.4	18.4	4.0	8.0
Saginaw	16.6	18.6	4.0	9.2
Evansville, Ind.	17.7	19.7	5.0	10.3
Indianapolis	17.9	19.9	5.0	9.0
South Bend	18.1	20.1	5.0	8.0
Fargo, N. Dak.	17.4	19.4	4.0	11.2
Huron, S. Dak.	17.9	19.9	5.0	8.5
Sioux Falls	17.4	19.4	5.0	8.0
Kans. City, Mo.*	15.4	17.4	4.0	7.0
Springfield	15.1	17.1	4.0	8.9
St. Louis	15.7	17.7	4.0	9.5
St. Joseph*	15.4	17.4	4.0	8.2
Wichita, Kans.	14.9	16.9	4.0	6.8
Bartlesville, Ok.	17.0	19.0	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

†Standard Oil Co. (Indiana) has leased all service stations in Iowa.

Discounts to dealers except in Iowa: 3½ cents on premium and regular and 2½ cents on third grade off service station prices; discounts to dealers in metropolitan Chicago one-half cent larger than rest of Standard of Indiana territory, namely 4 cents and 3 cents on respective grades. Dealers in Iowa sold at posted "Dealer Prices."

Stanolax Fuel Oil in Chicago

Effective February 10, 1936, f.o.b. Chicago tank-wagon prices: Range oil, less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons and more, 7.25 cents. 1 (36-40 lt. stw. zero), less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons or more, 7.25 cents; No. 3, (22-26 zero), less than 150 gallons, 7.5 cents; 150 gallons or more, 6.5 cents; No. 4 (12-16 zero), less than 400 gallons, 7.5 cents; 400 gallons or more, 6.5 cents, viscosity of No. 4, 85° and 100° F.; No. 5, less than 400 gallons, 5.75 cents; 400 gallons or more, 4.75 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Denver, Colo.	19.0	21.0	5.0	11.0
Pueblo	19.0	21.0	5.0	13.0
Grand Junction	21.5	23.5	5.0	15.0
Casper, Wyo.	19.5	21.5	5.0	11.5
Cheyenne	19.5	21.5	5.0	13.0
Butte, Mont.	22.0	24.0	6.0	17.5
Billings	20.5	22.5	6.0	16.5
Helena	22.5	24.5	6.0	17.5
Great Falls	21.5	23.5	6.0	17.5
Salt Lake, Utah	21.0	23.0	5.0	16.0
Twin Falls, Ida.	23.0	25.0	6.0	18.0
Boise	22.5	24.5	5.0	18.0
Albu'que, N. M.	21.0	23.0	*6.5	13.0

*One-half cent city tax.

Discount to dealers with or without contract, in Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 2½ cents.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Atlanta, Ga.	21.0	23.0	7.0	*14.5
Augusta	20.5	22.5	7.0	*14.0
Macon	20.5	22.5	7.0	*14.5
Savannah	18.5	20.5	7.0	*13.0
Birm'ham, Ala.	21.0	23.0	8.0	12.0
Mobile	19.0	20.0	8.0	11.0
Montgomery	22.0	24.0	9.0	14.5
Jackson, Miss.	20.0	22.0	7.0	*13.0
Vicksburg	19.5	21.5	7.0	*13.0
Jacksonville, Fla.	18.0	20.0	8.0	12.0
Miami	19.5	21.5	8.0	13.5
Pensacola	21.5	23.5	9.0	12.0
Tampa	18.0	20.0	8.0	12.5
Lexington, Ky.	20.0	22.0	6.0	11.0
Covington	18.5	20.5	6.0	10.5
Louisville	19.0	21.0	6.0	10.0
Paducah	18.0	19.0	6.0	10.0

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile and Birmingham, Ala., each have a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
San Francisco	14.0	16.0	4.0	11.5
Los Angeles	11.5	13.5	4.0	10.5
Fresno, Calif.	14.5	16.5	4.0	9.0
Phoenix, Ariz.	18.0	20.0	6.0	‡16.0
Reno, Nev.	17.0	19.0	5.0	13.0
Portland, Ore.	16.5	18.5	6.0	13.5
Seattle, Wash.	16.5	18.5	6.0	13.5
Tacoma	16.5	18.5	6.0	13.5
Spokane	19.5	21.5	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A ¾ cent per gallon discount is given dealers and customers taking tank-wagon lots except in Phoenix where discount is 1 cent.

‡Includes 5-cent state tax.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Atl'tic City, N.J.	14.3	17.3	4.0	9.0
Newark	13.8	16.8	4.0	7.5
Annapolis, Md.	15.6	19.1	5.0	10.0
Baltimore	15.0	18.5	5.0	8.5
Cumberland	16.6	20.1	5.0	12.7
Wash'g'n, D. C.	12.0	16.5	3.0	9.0
Danville, Va.	17.5	21.0	6.0	12.9
Norfolk	16.0	19.5	6.0	11.3
Petersburg	16.5	20.0	6.0	11.7
Richmond	16.5	20.0	6.0	11.7
Roanoke	17.5	21.0	6.0	12.9
Charles'n, W.Va.	15.8	19.3	5.0	12.6
Parkersburg	15.1	18.6	5.0	11.2
Wheeling	16.0	19.5	5.0	12.2
Charlotte, N. C.	18.7	22.2	7.0	12.9
Hickory	19.0	22.5	7.0	13.1
Mt. Airy	19.0	22.5	7.0	13.2
Raleigh	18.4	21.9	7.0	12.7
Salisbury	18.8	22.3	7.0	13.0
Charleston, S. C.	17.0	20.5	7.0	11.3
Columbia	18.3	21.8	7.0	12.6
Spartanburg	18.7	22.2	7.0	12.9

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Omaha	18.4	20.4	6.0	10.1
McCook	19.1	21.1	6.0	9.0
Norfolk	18.8	20.8	6.0	10.5
North Platte	19.2	21.2	6.0	10.9
Scottsbluff	19.9	21.9	6.0	11.6

Note: Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank-wagon deliveries covered only by Standard Commercial Consumers Contract, effective January 1, 1935.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Philadelphia, Pa.	17.0	19.0	5.0	9.5
Pittsburgh	17.5	19.5	5.0	10.0
Allentown	17.0	19.0	5.0	9.5
Erie	16.5	18.5	5.0	9.0
Scranton	17.5	18.25	5.0	10.0
Altoona	17.5	19.5	5.0	9.5
Dover, Del.	17.0	19.0	5.0	10.0
Wilmington	16.5	18.5	5.0	9.5
Springf'ld, Mass.	14.0	17.5	4.0	7.5
Worcester	14.0	16.5	4.0	7.75
New Haven	14.0	17.5	4.0	7.5
Providence, R. I.	12.75	15.0	3.0	7.25

Note—Tank-wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
N. Orleans, La.	19.5	23.0	‡9.0	12.0
Baton Rouge	17.5	21.0	†7.0	11.5
Alexandria	18.5	22.0	†*8.0	10.5
Lafayette	19.0	22.5	‡*8.0	12.5
Lake Charles	19.0	22.5	†*8.0	10.0
Shreveport	18.0	20.5	†7.0	9.0
Knoxville, Tenn.	21.0	24.5	8.0	14.0
Memphis	19.0	22.5	8.0	9.5
Chattanooga	20.5	24.0	8.0	11.5
Nashville	20.0	23.5	8.0	10.0
Bristol	18.75	21.5	8.0	14.5

*Includes city tax of 1 cent.

†Includes 1-cent parish tax. ‡Includes 3-cent parish tax.

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline: Post deal	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Albany, N. Y.	14.0	17.5	5.0	7.75
*Met. N. Y.:				
Manhtn., Bronx	15.2	18.7	5.0	7.25
Staten Island	15.45	19.2	5.0	7.25
Qu'ns & Br'klyn	15.2	18.7	5.0	7.35
Buffalo	14.5	16.5	5.0	8.25
Rochester	14.5	18.0	5.0	8.25
Syracuse	14.5	18.0	5.0	8.75
Boston, Mass.	12.5	16.0	4.0	7.5
Portland, Me.	14.5	18.0	5.0	7.75
Manch'ter, N. H.	14.5	18.0	5.0	8.0
Burlington, Vt.	17.0	20.5	5.0	8.75
Hartford, Conn.	14.5	18.0	4.0	7.0

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Dallas, Tex.	14.0	18.0	5.0	8.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	15.0	19.0	5.0	8.0
San Antonio	15.0	19.0	5.0	8.0
El Paso	16.0	20.0	5.0	10.0
Muskogee, Ok.	17.0	19.0	5.0	7.0
Okla. City	17.0	19.0	5.0	8.0
Tulsa	17.0	19.0	5.0	8.0
Ft. Smith, Ark.	15.5	19.0	5.0	8.0
Little Rock	18.0	21.5	7.5	9.5
Texarkana	14.5	18.5	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Ohio points	17.5	19.5	5.0	*13.5

*Includes state tax of 1 cent.

Canada*

Imperial 3-Star Gasoline
IMPERIAL OIL, LTD.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Hamilton, Ont.	21.0	23.5	6.0	17.0
Toronto, Ont.	21.0	23.5	6.0	17.0
Brandon, Man.	30.3	32.3	7.0	22.3
Winnipeg, Man.	29.2	32.2	7.0	20.7
Regina, Sask.	30.5	33.5	7.0	22.0
Saskatoon, Sask.	33.3	36.3	7.0	24.8
Edmonton, Alta.	32.7	35.7	7.0	24.2
Calgary, Alta	30.0	33.0	7.0	21.5
Vancouver, B. C.	26.0	29.0	7.0	24.0
Montreal, Que.	19.5	22.0	6.0	17.5
St. John, N. B.	25.5	29.5	8.0	20.0
Halifax, N. S.	25.5	29.5	8.0	20.0

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal where discounts below station price are one-half cent per gallon less.

Retail Price Changes

Standard Oil Co. of Kentucky February 7 advanced tank-wagon gasoline 2 cents, station gasoline 2.5 cents and tank-wagon kerosene 2 cents in Paducah.

Socony-Vacuum Oil Co., Inc., February 15 advanced station gasoline 2 cents in Syracuse.

Rocky Mountain Runs

Production estimates for the week ended February 15, 1936, follows:

WYOMING

	Bbls.
Salt Creek	15,620
Big Muddy	1,560
Badger Basin	40
Black Mountain	0
Byron	40
Dallas Derby	420
Dutton Creek	70
Elk Basin	590
Ferris	30
Frannie	770
Garland	110
Grass Creek	2,220
Greybull	0
Hamilton Dome	1,000
Hudson	230
LaBarge	1,060
Lance Creek	3,430
Lost Soldier	1,160
Mule Creek	0
Midway	60
Nctches	0
Oregon Basin	2,590
Osage	650
Pilot Butte	30
Rex Lake	0
Rock River	2,020
South Casper	0
Poison Spider	100
Teapot	20
Waugh Dome	0
Total Wyoming	33,820

MONTANA

Buckley-Border	220
Cat Creek	780
Cut Bank	7,200
Dry Creek	0
Kevin-Sunburst	3,400
Lake Basin	50
Pondera	1,010
Total Montana	12,660

COLORADO

Florence	230
Fort Collins and Wellington	380
Iles Dome	2,550
Moffat	400
Orchard	50
Rangely	70
Tow Creek	180
Total Colorado	3,860

NEW MEXICO

Artesia	630
Cooper area	8,500
Eunice area	12,170
Hobbs	26,820
Hogback	200
Hospah	0
Jal	3,490
Lea area	890
Maljamar	1,760
Monument	1,500
Rattlesnake	780
Table Mesa	90
Total New Mexico	57,130
Total Rocky Mountain region	107,470

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of February 18, 1936

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
Below 63 octane	.05½	
63-70 octane	.06⅛	.06¼
60-62 400 grade:		
Below 63 octane	.05½	
63-70 octane	.06⅛	.06⅛
64-66 375	.05⅝	.05⅛
68-70 360	.05½	.05⅝

NORTH TEXAS—

U. S. Motor grades:		
Below 63 octane	.05½	
63-70 octane	.06⅛	.06¼
60-62 400	.05½	
64-66 375	.05⅝	.05½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
Below 63 octane		.05⅝
63-70 octane		.06⅜
60-62 400		.06

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
Below 63 octane		.05⅝
63-70 octane		.06⅜

CHICAGO (based on Group 3)—

U. S. Motor grades:		
Below 63 octane	.05½	.05¼
63-70 octane	.06⅛	.06¼
60-62 400	.05½	.05⅝
64-66 375	.05¼	.05½
68-70 360	.05⅝	.05⅝

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.05⅝
60-64.9 octane		.07¼
65-70 octane		.07½
64-66 375		.05⅞
68-70 350		.06⅛

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.04	.05¼
58-60 400	.05	.06¼

EAST COAST—

U. S. Motor, below 60 octane:		
*New York (Bayonne)		.06⅜
Baltimore		.06⅝
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)		.07
Philadelphia		.07
Boston		.07
Baltimore		.06⅝
Charleston, S. C.		.06⅝
U. S. Motor, 65 and above:		
*New York (Bayonne)		.07¼
Philadelphia		.07¼
Boston		.07¼
Baltimore		.07
Charleston, S. C.		.07

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05¼	.05⅝
60-64.9 octane	.05½	.05¾
65 octane and higher		.06⅝

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05⅝
52-54 450 (blending)	.05⅝
54-56 450 (blending)	.05⅝

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03⅝	.03⅞
Grade 18-55	.04½	.04⅝
Low vapor pressure grade:		
*14 lb. v.p. (max.)	.05¼	.05⅜
*12 lb. v.p. (max.)	.05⅝	.05½

NORTH TEXAS—

Grade 26-70		.03⅛
Grade 18-55	.04¼	.04⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.03¾	.04

CALIFORNIA—

75-85 375-390	.04¾	.05

*Nominal.

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-560 e.p.	.03⅝
41-43 gr., 300-350 i.b.p., 110-125 flash, 500-520 e.p.	.04¼
46-48 gr., 210-230 i.b.p., 480 max. e.p.	.05

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅝	.03⅞
42-44	.03⅜	.04

NORTH TEXAS—

41-43	.03⅝	.03⅞

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43		.03⅝

ARKANSAS (Ark., N. La., Miss. del.)—

41-43		.04¼

PENNSYLVANIA (inland refineries)—

45		.05¼
46		.05⅜
47		.05½

CHICAGO (based on Group 3)—

41-43	.03⅝	.03¾
42-44	.03⅝	.04

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03½	.05

NEW YORK (Bayonne, N. J.)—

*41-43	.05¼	.05½

GULF COAST (domestic)—

41-43	.04¼	.04½

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅝	.03⅞
No. 1 straw, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03⅝	.03½
No. 2 dark, 32-36	.03¼	.03⅜
No. 3, 28-32	.03¼	.03¼
No. 3, 15 and above, 28-32	.02½	.02⅝

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅝	.03¾
No. 1 straw, 38-40	.03⅛	.03⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03½	.03⅝

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36		.03⅝
No. 3, 28-32	.03⅜	.03½

CHICAGO (based on Group 3)—

No. 1 prime white, 38-40	.03½	.03⅝
No. 1 straw, 38-40	.03⅝	.03½
No. 2 straw, 32-36	.03⅝	.03½
No. 2 dark, 32-36	.03¼	.03⅜
No. 3, zero to 15, 28-32	.03⅛	.03¼
No. 3, 15 and above, 28-32	.02¼	.02½

NEW YORK (Bayonne, N. J.)—

*No. 1	.05¼
*No. 2	.04¾
*No. 4	.04½

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅝	.02½
No. 4, 24-28	.90	.95
No. 4, 15 and above, 24-28	.75	.80
No. 5	.67½	.70
No. 6	.62½	.70
Below 18 fuel oil, industrial	.60	.65

NORTH TEXAS—

U.G.I. gas oil	.02⅝	.02½
No. 4, 24-28	.90	.95
No. 5	.67½	.72½
No. 6	.65	.70
Below 18 fuel oil, industrial	.60	.65

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅝	.02
10-14 fuel oil, industrial	.75	.80

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60	.65

CHICAGO (based on Group 3)—

U.G.I. gas oil	.02¼	.02⅝
No. 4, 24-28	.90	1.00
No. 4, 15 and above, 24-28	.75	.80
No. 5, 18-22	.67½	.72½
No. 6, 10-15	.60	.65

Fuel oils of more than 40 cold test generally 5 to 15 cents per bbl. in these areas.

PENNSYLVANIA (inland refineries)—

36-40	.04½	.04⅝

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.10	1.25
27 plus diesel	1.05	1.20
27 plus diesel (bunkers)	1.15	1.35
12-16 (bunkers at tidewater)	.82	.92
10-16 (cargo lots)	.80	.89
12-17 (tankcars)	.65	.95
San Joaquin Valley:		
16-18 (tankcars)	.60	.75
San Francisco:		
27 plus diesel, per bbl.		1.25
27 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03¼	.03⅝
28-30 diesel (bunkers)		1.70
Bunker C (bulk cargoes)		.75
Bunker C (bunkers)		.90

NEW YORK (Bayonne, N. J.)—

27 plus gas oil		.04½
28-30 diesel (lighterage 6¼ plus per bbl.)		1.65
28-30 diesel (tankers)		.04½
*Bunker C (to ocean-going ships in N. Y. harbor)		1.05
Industrial fuel (tankcars)		.04¼

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.20
150-160 D, 0-10		.17
150-160 D, 15-25		.16½
150-160 E, 15-25		.16
100-110 D, 0-10		.15¾
Steam refined:		
630 green (treated)		.10
600 light green (untreated)		.08½
600 dark green (untreated)	.06	.07

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 510; 540-550 flash):		
10 pour test	.22	.22½
15 pour test	.21	.21½
20 pour test	.20	.20½
25 pour test	.19	.19½
Steam refined:		
600	.10	.10½
650	.11½	.12
600 Pennsylvania flash	.12½	.13
630 flash	.17½	.18
600 Warren E, filtered	.13½	.14

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.10
180-3		.11⅝
180-4		.10⅝
200-3		.11¼
200-4		.11½
250-3		.13⅝
250-4		.13½
280-3		.14⅝
280-4		.14
300-3½		.15¼
400-3½		.16
100-2 paraffin oil		.05⅝
15-20 Cold Test:		
200-3		.10⅝
200-4		.10½
240-3		.12⅝
240-4		.12¼
280-3		.13⅜
280-4		.13

GULF COAST—

Pale Oils:		
200-3	.07	.07⅛
300-3	.07⅛	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09½	.09⅝
2,000-4	.09⅝	.10
Red Oils:		
200-5-6	.07	.07½
300-5-6	.07½	.07½
500-5-6	.08	.08½
750	.08½	.09
1,200-5-6	.09	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3	.06½	.06⅜
200-2½-3	.06⅜	.07
300-3-3½	.07	.07½
400-3-4	.09	.09½
450-3-4	.09⅝	.10
550-3-4	.10	.10½
600-3-4	.10¼	.10½
Red Oils:		
200-4-5	.06½	.06⅜
300-5-6	.06⅝	.07
350-5-6	.07	.07½
400-5-6	.08	.08½
450-5-6	.08¼	.08½
500-5-6	.08½	.08⅝
600-5-6½	.09	.09½
700-6½ plus	.09½	.10
750-6½ plus	.10	.10¼
900-6½ plus	.10¼	.10½

PENNSYLVANIA—

150 vis. at 70° F., color, 400-405 flash:		
Zero pour test	.20	.20½
10 pour test	.19	.19½
15 pour test	.18½	.19
25 pour test	.17½	.18
180 vis. at 70° F., 3 color:		
25 pour test	.20½	.21
200 vis. at 70° F., 3 color:		
Zero pour test	.24½	.25
10 pour test	.23½	.24
15 pour test	.22	.23½
25 pour test	.22	.22½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02½

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0230	.0235
124-126 (a.m.p.) w.c. scale	.0235	.0240

NEW YORK—

Wax in bags fully refined:		
123-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0235	.0240
124-126 (a.m.p.) y.s.	.0230	.0235
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.03⅜	.03
Extra amber	.03	.03½
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05⅝	.05½
60-62 400		.05½
61-63 390		.05⅝
64-66 375		.05⅝

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04½
55-65 octane	.04¼	.04½
65-67 octane	.04½	.04¾
67-69 octane	.04⅝	.05
Above 69 octane	.05	.05⅛
58-60 400 endpoint	.05⅛	.05⅝

KEROSENE

GULF COAST—

41-43 prime white	.03⅞
41-43 water white	.04
44 water white	.04⅛

LOS ANGELES—

41-43 water white	.04½	.04⅝

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.a.s. in bbls.)—

Cylinder Stocks:		
600 Warren E		.20½
600 S.R., unfiltered	.17	.17½
650 S.R. unfiltered	.18	.18½
600 flash S.R.	.19	.19½
630 flash S.R.		.24
Bright Stocks:		
8 color		.26
6½ plus color in dilution		.25½

NEUTRAL OIL

200-3 color	.28	.28½
150-3 color	.24	.24½

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.0390
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude scale:		
124-126 w.s.	.0230	.0235
124-126 y.s.		.0234

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Altus and Tipton, Okla.‡	1.08
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gypsy Oil Co.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell Counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Rocky Mountain States

(Effective January 9, 1936)

Ilse, Colo., light*	$1.06
Ilse, Colo., heavy*	1.00
Greybull, Wyo.*	1.28
Torchlight, Wyo.*	1.28
Grass Creek, Wyo., light*†	1.28
Grass Creek, Wyo., heavy*†	.72
Hamilton Dome, Wyo.*	.67
Elk Basin, Wyo., light*†	1.28
Frannie, Wyo., heavy*	.72
Frannie, Wyo., light*	.82
Hogback, N. Mex.*	1.21
Pondera, Mont.* (Jan. 29, 1936)	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Rock Creek, Wyo.†	1.12
Artesia, N. Mex. (Dec. 1, 1933)‡	.75
Maljamar, N. Mex. (Sept. 29, 1933)‡	.75
Fort Collins and Wellington, Colo.‡ (Jan. 9, 1936)	See Note
Florence, Colo.	.95
Lance Creek, Wyo.	.85
Lost Soldier, Wyo. (Sept. 30, 1933)	.85
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont.	1.25
Cat Creek, Mont.	1.28
Cat Bank, Mont. (May 23, 1934)	1.45

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 36°; Wellington 33°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex.	.90
Refugio, Tex., heavy	.90
Tomball, Tex.	1.30
LaFitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La.	1.00
Evangeline, La.	1.07
Welsh, La.	.96

Cleveland and Hardin by Magnolia; Greta by Texas Co.; Refugio by Humble; Tomball by Humble and Magnolia; LaFitte by Texas Co.; Bosco by Pure; Evangeline and Welsh by Stanolind Oil & Gas Co.; Livingston by Shell Petroleum Corp.

Southwest Texas

(January 9, 1936)

Saxet	$ .90
Mirando	.85
Pettus	1.25
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duvall by Texas Co.

Middle Western States

OHIO OIL CO.

Lima (Jan. 10, 1936)	$1.35
Illinois (Jan. 9, 1936)	1.23
Princeton, Ind. (Jan. 9, 1936)	1.23
Midland, Mich. (Jan. 13, 1936)*	1.32
West Branch, Mich. (Nov. 7, 1935)	.96
Muskegon, Mich.	1.00
Ogemaw, Mich.	1.06
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.38
Western Kentucky (Jan. 9, 1936)	1.23

*Posted by Pure Oil Co., Simrall Pipe Line Co. Ogemaw and West Branch, Mich., by Simrall Pipe Line Co. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$ .75
Smackover, all grades (Jan. 9, 1936)†	.80
Tullos and Urania (Jan. 10, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East Field (Jan. 16, 1936)	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana. El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita Counties, Arkansas.

Eastern States

TIDE WATER PIPE CO.
(Effective Jan. 13, 1936)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.12
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.42

PENNZOIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines:

Group A — Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.42
Group B — Includes Titusville district.	2.41
Group C — Includes Turkey and Tidioute districts.	2.40
Group D — Includes Bear Creek and Porkey districts.	2.39
Group E — Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	2.36

Price depends on lengths of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective Jan. 13, 1936)

Cabin Creek, W. Va.	$2.12
Bradford Hollow, W. Va.	2.13
Kelly Creek, W. Va.	2.12

Canada

Ontario (Sept. 9, 1932):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (Feb. 3, 1936):†	
Clear naphtha	2.70
Discolored naphtha	2.46
Crude oil, 50 gravity	2.32
Crude oil, 45 to 49.9	2.12
Crude oil, 40 to 44.9	1.55

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$ .84

*F.o.b. ship, based on January transactions and exclusive of production and export taxes and bar dues.

Gas Field Operations in N. Y.-Penn.

COUDERSPORT, Pa., Feb. 17.—The one completion in the Oriskany gas sand fields of Pennsylvania and New York reported in the past week proved a failure. This was Wittmer Oil & Gas Co. G. Losey farm test in Dansville Township, Steuben County, New York, abandoned at 4,375 feet. Sub-zero temperatures has kept activity down to the lowest point since the opening of the gas area.

Pennsylvania Operations

Producers Power & Light Co. was drilling at 3,790 feet on the Joe Trimmer farm, Clymer Township, Tioga County. Godfrey L. Cabot was drilling at 1,125 feet on the H. Decker farm, Westfield Township, same county. P. P. & L. company was drilling at 680 feet on the Francis Johnson farm, Clymer Township, same county. Potter Development Co. was drilling at 343 feet on the A. Karhan farm, same township and county. Godfrey L. Cabot was drilling at 5,200 feet on the Duke estate property, Genesee Township, Potter County. Miller Ake was shut down at 3,810 feet on the Walter Burrell farm, same township and county. Potter Development Co. was shut down at 5,179 feet on the same farm.

New York Operations

Belmont Quadrangle Development Co. was drilling at 170 feet on the Thomas Burns farm, Alma Township, Allegany County. Decker and others was shut down at 2,285 feet on the Burns No. 2, same township and county. Godfrey L. Cabot was drilling at 4,203 feet on the Gillette farm, Amity Township, same county. Wyoga Oil & Gas Co. was drilling at 4,610 feet on the Henry Knox farm, Willing Township, same county. Belmont Quadrangle Development Co. was building a rig on the J. O'Hara farm, same township and county. Cunningham Natural Gas Co. was moving in on the same farm. Utica Natural Gas Co. was shut down at 875 feet on the William Grimm farm, Western Township, Oneida County. Property Shares was shut down at 950 feet on the R. Skinner farm, Westmoreland Township, same county.

Crude Oil Prices by Gravities

Gravity—	Oklahoma, Kansas, and Salt Creek, Wyo. 1	Central and North Texas 2	East Central Texas 3	East Central Texas 4	North Louisiana, Arkansas 5	Gray County Texas 6	Carson and Hutchinson Counties, Texas 7	Conroe, Texas 8	West Texas and Lea County, New Mexico 9	Gulf Coast, Texas and Louisiana 10	Anahuac and Dickinson, Texas 11	Iowa and Cameron Meadows, Texas 12
Below 20	....	....	....	....	....	....	....	....	....	$.92	....	$.82
20-20.9	....	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$.86	....	....	....	$.78	....	....	....	....	....	....	....
25-25.9	.88	....	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$.84	$.91	$.84	....	....	....	....	$.75	....	....	....
29-29.9	.96	.86	.93	.86	.88	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.88	.90	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.90	.92	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.92	.94	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.94	.96	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.96	.98	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	....	$.86	$.81	....	....	....	....	....
35-35.9	1.08	.98	1.05	.98	1.00	.88	.83	$1.24	.88	1.22	1.14	1.12
36-36.9	1.10	1.00	1.07	1.00	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.02	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.04	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.06	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.08	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

Column 1—Effective January 9, 1936—Companies starting schedule below 29 gravity are Stanolind, Anderson-Prichard, Bell, Barnsdall, Champlin, Continental, Deep Rock, Dickey, Eason, El Dorado, Empire, Fiacon, Globe, Gypsy, Johnson, Kan-O-Tex, National, Pepper, Sunray, Texas, Tide Water, Twin State, Vickers, White Eagle. Starting below 25 gravity are Carter, Magnolia, Pure, Rock Island, Shell, Sinclair Prairie and Skelly companies.

Column 2—Effective January 9, 1936—Humble Oil & Refining Co. and adopted by all purchasers.

Column 3—Effective January 9, 1936—Humble Oil & Refining Co. and Sinclair Prairie Oil Marketing Co.

Column 4—Effective January 9, 1936—Magnolia Petroleum Co.

Column 5—Effective January 10, 1936—Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co. and Stanolind Oil and Gas Co. Magnolia, effective January 16, starting at below 29 gravity 84 cents.

Column 6—Effective January 9, 1936—Led by Humble Oil & Refining Co. Adopted by all buyers.

Column 7—Effective January 9, 1936—Led by Humble Oil & Refining Co. Adopted by all buyers.

Column 8—Effective January 9, 1936—Led by Sun Oil Co. Adopted by all buyers.

Column 9—Effective January 14, 1936—Humble Oil & Refining Co. Does not include Pecos County. Effective January 14 by Texas Co.; January 16 by Magnolia Petroleum Co.; January 23 by Shell Petroleum Corp.

Column 10—Effective January 9, 1936—Led by Sun Oil Co. Adopted by all buyers. Texas Co. starts schedules at below 18 gravity 88 cents.

Column 11—Effective January 9, 1936—Humble Oil & Refining Co.

Column 12—Effective January 9, 1936—Magnolia Petroleum Co.

NEW OR IMPROVED EQUIPMENT

Narrow Traveling Block Helps to Solve Deep-Well Problem

The depth to which wells now are drilled has created a demand for heavier equipment. Not only have wire lines been increased from 1 inch and 1⅛ to 1¼ inches, but it has become necessary to increase the number of lines strung with the traveling block from 10 to 12, requiring use of six-sheave traveling blocks. Also the greater length of drill pipe handled in the derrick has resulted in occupancy of the available clearance that blocks require for free and unhampered movement. These new conditions accompanying the search for deeper oil sands in various areas has provided new problems for solution by manufacturers of oil-field equipment. In this case, while there is need for more and heavier wire lines, the space for handling them has been diminished.

To meet this condition Regan Forge & Engineering Co., San Pedro, Calif., has designed a narrow traveling block, designated as Type G, equipped with five or six sheaves and for 500-ton capacity. The sheaves are 48 inches in diameter. The six-sheave block occupies a space only 24½ inches in width, which is the same as that occupied by ordinary four-sheave blocks. The weight is 13,000 pounds.

Bulletins, Booklets and Other Literature for the Trade

The "Pul-lift," for pulling and lifting where space or head-room is restricted, is described and illustrated in a bulletin obtainable from the Yale & Towne Manufacturing Co., Philadelphia, Pa.

Sarco Co., Inc., 183 Madison Avenue, New York, is sending on request a folder describing Sarco strainers for pipe lines.

"Oilwell" drill-collars are described in a leaflet obtainable from the Oil Well Supply Co.'s stores in all oil fields.

"Another Advance in Well Completion Technique" is the title of one of the interesting articles in the current issue of Hot Shots, published by the Lane-Wells Co., Los Angeles, Calif.

Silvertube precision working barrels, manufactured from a cold-drawn seamless steel tube especially developed for oil-country application, are the subject of a four-page folder sent on request by Jon R. Long, Box 414, Fort Worth, Tex.

A bulletin offered by National Tank Co., Tulsa, is devoted to National bolted tanks and discusses the four metals used in their construction for different types of service, namely blue annealed steel, galvanized blue annealed steel, plain wrought iron and galvanized wrought iron.

New literature announced by Worthington Pump & Machinery Corp., Harrison, N. J., includes bulletins on internal sleeve-bearing, external ball-bearing and internal roller-bearing double helical rotary pumps; horizontal duplex piston pumps for general service, and vertical 4-cycle direct-injection diesel engines.

Technical Bulletin No. 11 on oil storage tanks, issued by Chicago Bridge & Iron Works, Chicago, contains general specifications, notes on design, joint efficiency tables and tables of standard capacity tanks for the storage of oil and other liquids.

Three sizes of diesel electric direct-connected generator sets are described in a booklet released by Caterpillar Tractor Co., Peoria, Ill.

The Timken Roller Bearing Co., Canton, Ohio, has promoted F. B. Yates to manager of the New York district office, in charge of industrial sales and has made S. C. Merrill eastern district manager of the automotive division, with headquarters in Detroit, Mich.

A request sent to the U. S. Oil Tool Corp., Houston, Tex., brings an illustrated bulletin describing the company's full-hole slush-pump valve.

Angle Switching

The time required for the usual relays and contactors to function from any contact device on the shaft of a synchronous motor is too long and too uncertain to time precisely the pull in point. This difficulty has been overcome by Westinghouse through use of inductive generators on the motor-shafts and grid-glow type tubes and high-speed relays in the field closing circuit. The equipment can be used in conjunction with synchronous motor control of the standard type. The control functions in the ordinary manner up to the point of applying the excitation voltage. Instead of closing the field contactor at that point, the high-speed synchronizing equipment is energized. This in turn applies the excitation to the motor the first time the rotors of the two machines are in the correct angular position.

New Type Insulation for Cold Lines Is Developed by J-M

A new type of pipe insulation for cold lines, announced by Johns-Manville, New York, is of interest to the oil-refining industry. Known as rock cork pipe covering, this product is the same basic material as rock cork sheets which have been widely used to insulate cold storage rooms.

Like the sheet form, the new covering is made

of specially waterproofed rock wool, thus being mineral in composition and inherently permanent in character. The most important feature of the material, according to the Johns-Manville announcement, is the factory-applied waterproof jacket which provides, in addition to the unusual moisture resistance of the material itself, an absolutely waterproof hermetic seal against the infiltration of moisture-laden air, the most common cause of failure of low temperature insulation.

Fittings are insulated with multiple layers of Zerotex, a waterproofed rock wool designed for the purpose. Each layer of Zerotex is sealed with a double-wrapping of special waterproofed tape.

Good Mileage and Expects to Do Better

The illustration shows a Mack model BG truck of 1½ to 3 tons capacity, in which has been installed a Cummins model HA-4-cylinder, full diesel, cold-starting engine. The truck, which has a maximum speed of 46 miles an hour at 1,800 engine speed, has been used by the Continental Oil Co., Ponca City, Okla., in hauling pipe while running the engine in, and will be put on its regular run carrying oil throughout Oklahoma, western Arkansas, and southern Kansas. It is reported to have run 3,982 miles on 316 gallons of fuel, or 12.6 miles per gallon. It is expected its regular mileage will reach 14 miles per gallon. The truck load of casing shown consisted of 21 joints of 12½-inch pipe, normal load being 21,000 pounds. The ground was soft corn field.

Filling Station Net

Although the filling station collects taxes of 40 per cent on gasoline alone and provides the fastest and most complete service to customers of any retail outlet, it is estimated filling station net profits average only 1.65 per cent and the superservice station nets only 1.76 per cent. It is estimated that beauty shops net 15 per cent, florists 13 per cent, cafeterias about 12 per cent, and drug stores 5 per cent.

A survey made by the U. S. Bureau of Foreign and Domestic Commerce revealed that the filling station's gross profit margin averages 26.58 per cent, while expenses amount to 24.93 per cent. Expenses include a number of the 201 different types of taxes imposed upon petroleum products and operations.

Yates Hearing Delayed

AUSTIN, Tex., Feb. 17.—Scheduled hearing before the Texas Railroad Commission on a proposed change in the method oil allocations in the Yates pool has been postponed because of illness of several of the interested parties.

Oil to Homesteaders

WASHINGTON, D. C., Feb. 17.—Senator Carl A. Hatch, New Mexico Democrat, today introduced a bill to convey to homestead entrymen gas, oil and oil shale rights in the lands patented to them.

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Leases—Production

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NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

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Oil leases or Royalty, Drilling Propositions anywhere in Central Oklahoma.
I. H. TOWNSEND
P. O. Box 603, Shawnee, Okla.

FOR SALE—261 acres oil and gas lease near Cheneyville, Louisiana, about 1½ miles from producing oil wells. Address Box H-140, The Oil and Gas Journal, Tulsa, Oklahoma.

Would lease for oil and gas 160 acres NE¼ of 13-15-2E, Lincoln Co., Okla. Peter Menard, R. 2, Clyde, Kans.

FOR SALE—40,000 acres, oil leases in Kit Carson, Cheyenne and Kiowa Counties, Colo., 10 yr. leases 25c per acre rental, rentals paid for 1 yr. I furnish leases anywhere in Colo. or Kans. A. P. Tone Wilson, Burlington, Colorado.

Leases—Production

Independent Co. drill or lease 80 acres near Texas oil pool, fifty-fifty basis. Spencer, Murphy, N. C.

Write me for oil producing properties, drlg. blocks, leases, royalties, Louisiana. G. Lucas, 208 Milam St., Shreveport, La.

NEW LEASE 70 ac. 18-6N-2W and 100 ac. 11-6N-3W, McClain County, Okla. Joe P. Crawford, fee owner, Oklahoma City, Oklahoma.

Leases and Royalties for sale. Rodessa, Sligo and Bethany area. Also have choice North Louisiana drilling block where opportunity is ripe. A. D. King, with Bi-State Oil Co., Inc., 538 Ricou-Brewster Bldg., Shreveport, La.

Help Wanted

Petroleum Technologist — Major company has opening for technologist with a minimum of four years' experience in technical supervision of refinery technology and design of equipment. In reply give age, education, details of experience, and enclose photo. Address Box H-112, The Oil and Gas Journal, Tulsa, Okla.

WANTED — Experienced oil man in Land Department, experienced in all phases of the oil producing business. Must be absolutely honest, loyal, experienced in title work, preferably with some legal knowledge and acquaintance with personnel of major oil companies. State fully references, experience and salary expected.
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Large oil company requires petroleum engineer with two to five years' practical production experience. Must be graduate recognized university. Starting salary $175 to $250 per month depending on training, experience and recommendations. Age 23 to 28. Mail applications to Box H-150, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED one experienced Landis pipe machinist. Write stating experience and furnish references. Westerly Supply Co., Wink, Texas.

Situations Wanted

Refinery Supt. 10 yrs. experience skimming, cracking, vacuum equipment, road oils and asphalts. Address Box H-130, The Oil and Gas Journal, Tulsa, Okla.

10 years experience, draftsman, checker, estimator, designer and some executive experience, with major refinery designers and contractors. Age 32. Prefer connection with refiner. Address Box H-132, The Oil and Gas Journal, Tulsa, Okla.

CHEMICAL Engineer, petroleum chemist, with outstanding mechanical engineering experience in designing and developing equipment, wants position with engineering, development or operating department of major oil refining unit or oil producing interest. Address Box H-142, The Oil and Gas Journal, Tulsa, Oklahoma.

Refinery Superintendent—Grad. chem. engineer, 9 yrs. experience design and operation of cracking, road oil, asphalt, vapor recovery plants. References. Available Feb. 20. Address Box H-141, The Oil and Gas Journal, Tulsa, Oklahoma.

CONSTRUCTION man; 24 years' experience oil field work desires connection. Address Box H-151, The Oil and Gas Journal, Tulsa, Oklahoma.

Oil Industry Printing

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We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

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4—Pittsburgh, Pa., American Society for Testing Materials, regional meeting, Wm. Penn Hotel.

18-19—Indianapolis, Ind., Indiana Independent Petroleum Association, Inc., spring convention and refiners' and suppliers' exhibit, Hotel Severin.

19-21—Tulsa, American Association of Petroleum Geologists, twenty-first annual meeting.

April

9-10—Shreveport, La., A.P.I., southwestern Division of Production, Washington-Youree Hotel.

11-12—Tulsa, Petroleum Industry Electrical Association.

13-17—Kansas City, Mo., American Chemical Society, Petroleum Division, Symposium on Motor Fuels.

14—Los Angeles, Calif., A.P.I., Division of Production, spring meeting.

14-18—Detroit, Mich., Oil Burner Institute.

16-17—Detroit, Mich., A.I.M.E., Open Hearth Conference.

16-18—Cleveland, Ohio, National Petroleum Association, semiannual meeting, Cleveland Hotel.

20-25—Houston, Tex., Oil Equipment and Engineering Exposition.

May

5-8—Dallas, Tex., A.G.A. Natural Gas Department, Baker and Adolphus Hotels.

13-15—Tulsa, Natural Gasoline Association of America, fifteenth annual convention, Hotel Tulsa.

13-15—Tulsa, mid-year meeting, American Petroleum Institute, Mayo Hotel.

16-23—Tulsa, International Petroleum Exposition and Congress.

21—Tulsa, Independent Petroleum Association of America, mid-year meeting.

22—Tulsa, National Stripper Well Association.

25-27—New York, A.G.A. Production and Chemical Conference.

25-28—New Orleans, La., National Association of Purchasing Agents Convention.

June

18-19—State College, Pa., Pennsylvania Grade Crude Oil Association, thirteenth annual meeting.